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Analytical Data Package Prepared For

Brown and Caldwell

Yerington Air Quality - Event #84

Radiochemical Analysis By

STL Richland

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: STLR

Data Package Contains _____ Pages

Report No.: 32826

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32052		000494	J6G030156-8	H8M0K1AG	9H8M0K10	6191211
		000494	J6G030156-8	H8M0K1AA	9H8M0K10	6191213
		000494	J6G030156-8	H8M0K1AE	9H8M0K10	6191216
		000494	J6G030156-8	H8M0K1AF	9H8M0K10	6191218
		000494	J6G030156-8	H8M0K1AC	9H8M0K10	6191220
		000494	J6G030156-8	H8M0K1AD	9H8M0K10	6191221
		000495	J6G030156-9	H8M0Q1AG	9H8M0Q10	6191211
		000495	J6G030156-9	H8M0Q1AA	9H8M0Q10	6191213
		000495	J6G030156-9	H8M0Q1AE	9H8M0Q10	6191216
		000495	J6G030156-9	H8M0Q1AF	9H8M0Q10	6191218
		000495	J6G030156-9	H8M0Q1AC	9H8M0Q10	6191220
		000495	J6G030156-9	H8M0Q1AD	9H8M0Q10	6191221
		000496	J6G030156-10	H8M0V1AG	9H8M0V10	6191211
		000496	J6G030156-10	H8M0V1AA	9H8M0V10	6191213
		000496	J6G030156-10	H8M0V1AE	9H8M0V10	6191216
		000496	J6G030156-10	H8M0V1AF	9H8M0V10	6191218
		000496	J6G030156-10	H8M0V1AC	9H8M0V10	6191220
		000496	J6G030156-10	H8M0V1AD	9H8M0V10	6191221
		000497	J6G030156-11	H8M051AG	9H8M0510	6191211
		000497	J6G030156-11	H8M051AA	9H8M0510	6191213
		000497	J6G030156-11	H8M051AE	9H8M0510	6191216
		000497	J6G030156-11	H8M051AF	9H8M0510	6191218
		000497	J6G030156-11	H8M051AC	9H8M0510	6191220
		000497	J6G030156-11	H8M051AD	9H8M0510	6191221
		000498	J6G030156-12	H8M081AG	9H8M0810	6191211
		000498	J6G030156-12	H8M081AA	9H8M0810	6191213

Report No.: 32826

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32052		000498	J6G030156-12	H8M081AE	9H8M0810	6191216
		000498	J6G030156-12	H8M081AF	9H8M0810	6191218
		000498	J6G030156-12	H8M081AC	9H8M0810	6191220
		000498	J6G030156-12	H8M081AD	9H8M0810	6191221
		000499	J6G030156-13	H8M1C1AG	9H8M1C10	6191211
		000499	J6G030156-13	H8M1C1AA	9H8M1C10	6191213
		000499	J6G030156-13	H8M1C1AE	9H8M1C10	6191216
		000499	J6G030156-13	H8M1C1AF	9H8M1C10	6191218
		000499	J6G030156-13	H8M1C1AC	9H8M1C10	6191220
		000499	J6G030156-13	H8M1C1AD	9H8M1C10	6191221
		000500	J6G030156-14	H8M1E1AG	9H8M1E10	6191211
		000500	J6G030156-14	H8M1E1AA	9H8M1E10	6191213
		000500	J6G030156-14	H8M1E1AE	9H8M1E10	6191216
		000500	J6G030156-14	H8M1E1AF	9H8M1E10	6191218
		000500	J6G030156-14	H8M1E1AC	9H8M1E10	6191220
		000500	J6G030156-14	H8M1E1AD	9H8M1E10	6191221
		000501	J6G030156-15	H8M1G1AG	9H8M1G10	6191211
		000501	J6G030156-15	H8M1G1AA	9H8M1G10	6191213
		000501	J6G030156-15	H8M1G1AE	9H8M1G10	6191216
		000501	J6G030156-15	H8M1G1AF	9H8M1G10	6191218
		000501	J6G030156-15	H8M1G1AC	9H8M1G10	6191220
		000501	J6G030156-15	H8M1G1AD	9H8M1G10	6191221
		P-0668	J6G030156-1	H8MXT1AG	9H8MXT10	6191211
		P-0668	J6G030156-1	H8MXT1AA	9H8MXT10	6191213
		P-0668	J6G030156-1	H8MXT1AE	9H8MXT10	6191216
		P-0668	J6G030156-1	H8MXT1AF	9H8MXT10	6191218
		P-0668	J6G030156-1	H8MXT1AC	9H8MXT10	6191220
		P-0668	J6G030156-1	H8MXT1AD	9H8MXT10	6191221
		P-0669	J6G030156-2	H8MXV1AG	9H8MXV10	6191211
		P-0669	J6G030156-2	H8MXV1AA	9H8MXV10	6191213
		P-0669	J6G030156-2	H8MXV1AE	9H8MXV10	6191216
		P-0669	J6G030156-2	H8MXV1AF	9H8MXV10	6191218
		P-0669	J6G030156-2	H8MXV1AC	9H8MXV10	6191220
		P-0669	J6G030156-2	H8MXV1AD	9H8MXV10	6191221
		P-0670	J6G030156-3	H8MXW1AG	9H8MXW10	6191211
		P-0670	J6G030156-3	H8MXW1AA	9H8MXW10	6191213
		P-0670	J6G030156-3	H8MXW1AE	9H8MXW10	6191216
		P-0670	J6G030156-3	H8MXW1AF	9H8MXW10	6191218
		P-0670	J6G030156-3	H8MXW1AC	9H8MXW10	6191220

Report No.: 32826

SDG No.	Order No.	Client Sample ID (List Order)	Lot-Sa No.	Work Order	Report DB ID	Batch No.
32052		P-0670	J6G030156-3	H8MXW1AD	9H8MXW10	6191221
		P-0671	J6G030156-4	H8MXX1AG	9H8MXX10	6191211
		P-0671	J6G030156-4	H8MXX1AA	9H8MXX10	6191213
		P-0671	J6G030156-4	H8MXX1AE	9H8MXX10	6191216
		P-0671	J6G030156-4	H8MXX1AF	9H8MXX10	6191218
		P-0671	J6G030156-4	H8MXX1AC	9H8MXX10	6191220
		P-0671	J6G030156-4	H8MXX1AD	9H8MXX10	6191221
		P-0672	J6G030156-5	H8MX31AG	9H8MX310	6191211
		P-0672	J6G030156-5	H8MX31AA	9H8MX310	6191213
		P-0672	J6G030156-5	H8MX31AE	9H8MX310	6191216
		P-0672	J6G030156-5	H8MX31AF	9H8MX310	6191218
		P-0672	J6G030156-5	H8MX31AC	9H8MX310	6191220
		P-0672	J6G030156-5	H8MX31AD	9H8MX310	6191221
		P-0673	J6G030156-6	H8MX61AG	9H8MX610	6191211
		P-0673	J6G030156-6	H8MX61AA	9H8MX610	6191213
		P-0673	J6G030156-6	H8MX61AE	9H8MX610	6191216
		P-0673	J6G030156-6	H8MX61AF	9H8MX610	6191218
		P-0673	J6G030156-6	H8MX61AC	9H8MX610	6191220
		P-0673	J6G030156-6	H8MX61AD	9H8MX610	6191221
		P-0674	J6G030156-7	H8MX81AG	9H8MX810	6191211
		P-0674	J6G030156-7	H8MX81AA	9H8MX810	6191213
		P-0674	J6G030156-7	H8MX81AE	9H8MX810	6191216
		P-0674	J6G030156-7	H8MX81AF	9H8MX810	6191218
		P-0674	J6G030156-7	H8MX81AC	9H8MX810	6191220
		P-0674	J6G030156-7	H8MX81AD	9H8MX810	6191221

SEVERN TRENT STL

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Certificate of Analysis

July 27, 2006

Brown & Caldwell
2701 Prospect Park Drive
Rancho Cordova, CA 95670

Attention: Guy Graening

Date Received at Lab	:	July 3, 2006
Project Name	:	Air Quality Monitoring Yerington Mine
Project Number	:	121243
Event Number	:	84
PO Number	:	129682.001
Sample Type	:	Fifteen (15) Filters
SDG Number	:	32052

CASE NARRATIVE

I. Introduction

On July 3, 2006, fifteen filter samples were received at the STL Richland (STLR) laboratory for radiochemical analysis. Upon receipt, the samples were assigned the STLR identification numbers as described on the cover page of the Analytical Data Package report form. The samples were assigned to Lot Number J6G030156.

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information; analytical results and the appropriate associated statistical uncertainties.

The analysis requested was:

Alpha Spectroscopy
Thorium-228, -230, -232 by method RICH-RC-5087
Uranium-234, -235, -238 by method RICH-RC-5067
Gas Proportional Counters
Gross Alpha by method STL-RICHRC5016/5014
Gross Beta by method STL-RICHRC5016/5014
Radium-228 by method STL RICH-RC-5005
Alpha Scintillation Counter
Radium-226 by method STL RICH-RC-5005

IV. Quality Control

The analytical result for each analysis performed includes a minimum of one laboratory control sample (LCS), and one reagent blank sample analysis. Any exceptions have been noted in the "Comments" section.

V. Comments

Thorium-228, -230, -232:

The Th-228 MDA for sample P-0673 exceeded the CRDL due to a combination of background and lower than normal tracer yields. The MDAs for the other two analytes were acceptable as were the rest of the batch. Except as noted, the LCS, batch blank and sample results are within analytical requirements.

Uranium-234, -235, -238:

The LCS, batch blank and sample results are within analytical requirements.

Gross Alpha Analysis:

The LCS, batch blank and sample results are within analytical requirements.

Gross Beta Analysis:

Samples 000494 and 000495 do not meet CRDL but their results >MDA>CRDL. Except as noted, the LCS, batch blank and sample results are within acceptance limits.

Radium-228 Analysis:

The LCS, batch blank and sample results are within analytical requirements.

Radium-226 Analysis:

Sample P-0673 just misses the 1.0 CRDL with an MDA of 1.24 pCi/SA. The yield was slightly lower than 83%. Data will be accepted. Except as noted, the LCS, batch blank and sample results are within analytical requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. The Laboratory Manager or a designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Reviewed and approved:

Sherryl A. Adam
Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) ***u_c - Combined Uncertainty.***	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, ***u_c the combined uncertainty.*** The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt($TPUs^2$ + $TPUd^2$)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000494	H8M0K1AG	U-234	0.0925 +- 0.186	ND	pCi/sample	105%	0.251	
		U-235	-0.0185 +- 0.0371	ND	pCi/sample	105%	0.443	
		U-238	0.0740 +- 0.189	ND	pCi/sample	105%	0.443	
000494	H8M0K1AA	TH-228	0.00000188 +- 0.159	ND	pCi/sample	102%	0.404	
		TH-230	0.414 +- 0.262	=	pCi/sample	102%	0.216	
		TH-232	0.0000006 +- 0.0881	ND	pCi/sample	102%	0.265	
000494	H8M0K1AE	ALPHA	6.02 +- 3.37	=	pCi/sample	100%	3.06	
000494	H8M0K1AF	BETA	36.3 +- 6.78	=	pCi/sample	100%	5.67	
000494	H8M0K1AC	RA-226	0.514 +- 0.550	ND	pCi/sample	91%	0.878	
000494	H8M0K1AD	RA-228	2.06 +- 1.07	=	pCi/sample	80%	1.99	
000495	H8M0Q1AG	U-234	0.0795 +- 0.203	ND	pCi/sample	99%	0.476	
		U-235	0.00000 +- 0.243	ND	pCi/sample	99%	0.269	
		U-238	0.0596 +- 0.207	ND	pCi/sample	99%	0.561	
000495	H8M0Q1AA	TH-228	0.161 +- 0.192	ND	pCi/sample	96%	0.277	
		TH-230	0.265 +- 0.222	=	pCi/sample	96%	0.12	
		TH-232	0.0442 +- 0.0888	ND	pCi/sample	96%	0.12	
000495	H8M0Q1AE	ALPHA	7.12 +- 4.15	=	pCi/sample	100%	5.6	
000495	H8M0Q1AF	BETA	34.6 +- 6.57	=	pCi/sample	100%	5.56	
000495	H8M0Q1AC	RA-226	0.225 +- 0.379	ND	pCi/sample	99%	0.664	
000495	H8M0Q1AD	RA-228	1.12 +- 0.841	ND	pCi/sample	89%	1.72	
000496	H8M0V1AG	U-234	-0.0195 +- 0.0392	ND	pCi/sample	106%	0.468	
		U-235	0.00000 +- 0.239	ND	pCi/sample	106%	0.265	
		U-238	0.0781 +- 0.199	ND	pCi/sample	106%	0.468	
000496	H8M0V1AA	TH-228	0.0900 +- 0.128	ND	pCi/sample	105%	0.122	
		TH-230	0.173 +- 0.175	ND	pCi/sample	105%	0.117	
		TH-232	0.0431 +- 0.0866	ND	pCi/sample	105%	0.117	
000496	H8M0V1AE	ALPHA	3.71 +- 3.22	ND	pCi/sample	100%	5.23	
000496	H8M0V1AF	BETA	26.2 +- 5.34	=	pCi/sample	100%	5.43	
000496	H8M0V1AC	RA-226	0.611 +- 0.614	ND	pCi/sample	98%	0.968	
000496	H8M0V1AD	RA-228	0.759 +- 0.875	ND	pCi/sample	88%	1.93	

STL Richland

rptSTLRchSaSum
V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

= ERPIMS - Equal To, Analyte Detected

ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000497	H8M051AG	U-234	0.00000 +- 0.230	ND	pCi/sample	94%	0.254	
		U-235	-0.0188 +- 0.0376	ND	pCi/sample	94%	0.449	
		U-238	0.0750 +- 0.192	ND	pCi/sample	94%	0.449	
000497	H8M051AA	TH-228	0.0578 +- 0.116	ND	pCi/sample	109%	0.231	
		TH-230	0.296 +- 0.215	=	pCi/sample	109%	0.1	
		TH-232	0.0924 +- 0.134	ND	pCi/sample	109%	0.222	
000497	H8M051AE	ALPHA	4.55 +- 3.41	ND	pCi/sample	100%	5.15	
000497	H8M051AF	BETA	32.0 +- 6.03	=	pCi/sample	100%	5.27	
000497	H8M051AC	RA-226	0.00705 +- 0.279	ND	pCi/sample	96%	0.59	
000497	H8M051AD	RA-228	0.837 +- 0.767	ND	pCi/sample	85%	1.64	
000498	H8M081AG	U-234	0.198 +- 0.281	ND	pCi/sample	104%	0.268	
		U-235	0.00000 +- 0.242	ND	pCi/sample	104%	0.268	
		U-238	-0.0198 +- 0.0397	ND	pCi/sample	104%	0.474	
000498	H8M081AA	TH-228	0.171 +- 0.199	ND	pCi/sample	103%	0.319	
		TH-230	0.418 +- 0.265	=	pCi/sample	103%	0.218	
		TH-232	0.00000061 +- 0.0890	ND	pCi/sample	103%	0.267	
000498	H8M081AE	ALPHA	4.43 +- 3.17	ND	pCi/sample	100%	4.46	
000498	H8M081AF	BETA	33.8 +- 6.09	=	pCi/sample	100%	4.96	
000498	H8M081AC	RA-226	0.240 +- 0.380	ND	pCi/sample	93%	0.662	
000498	H8M081AD	RA-228	2.42 +- 1.03	=	pCi/sample	81%	1.74	
000499	H8M1C1AG	U-234	-0.0418 +- 0.0380	ND	pCi/sample	94%	0.591	
		U-235	-0.0251 +- 0.0293	ND	pCi/sample	94%	0.522	
		U-238	-0.0586 +- 0.0453	ND	pCi/sample	94%	0.647	
000499	H8M1C1AA	TH-228	0.0643 +- 0.129	ND	pCi/sample	100%	0.257	
		TH-230	0.247 +- 0.206	=	pCi/sample	100%	0.111	
		TH-232	0.00000 +- 0.101	ND	pCi/sample	100%	0.111	
000499	H8M1C1AE	ALPHA	2.83 +- 2.39	ND	pCi/sample	100%	3.17	
000499	H8M1C1AF	BETA	35.7 +- 6.37	=	pCi/sample	100%	5.01	
000499	H8M1C1AC	RA-226	0.290 +- 0.373	ND	pCi/sample	99%	0.621	
000499	H8M1C1AD	RA-228	1.63 +- 0.983	ND	pCi/sample	85%	1.93	

STL Richland
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V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
000500	H8M1E1AG	U-234	-0.0243 +- 0.0283	ND	pCi/sample	97%	0.505	
		U-235	-0.0243 +- 0.0283	ND	pCi/sample	97%	0.505	
		U-238	-0.0324 +- 0.0328	ND	pCi/sample	97%	0.54	
000500	H8M1E1AA	TH-228	0.0185 +- 0.0827	ND	pCi/sample	96%	0.222	
		TH-230	0.0531 +- 0.107	ND	pCi/sample	96%	0.212	
		TH-232	-0.0354 +- 0.0505	ND	pCi/sample	96%	0.261	
000500	H8M1E1AE	ALPHA	-0.1360 +- 2.20	ND	pCi/sample	100%	5.49	
000500	H8M1E1AF	BETA	0.0475 +- 2.34	ND	pCi/sample	100%	4.97	
000500	H8M1E1AC	RA-226	0.0248 +- 0.373	ND	pCi/sample	96%	0.732	
000500	H8M1E1AD	RA-228	0.788 +- 0.785	ND	pCi/sample	84%	1.7	
000501	H8M1G1AG	U-234	-0.0419 +- 0.0381	ND	pCi/sample	101%	0.592	
		U-235	-0.0168 +- 0.0239	ND	pCi/sample	101%	0.479	
		U-238	-0.0335 +- 0.0340	ND	pCi/sample	101%	0.56	
000501	H8M1G1AA	TH-228	0.0472 +- 0.150	ND	pCi/sample	93%	0.348	
		TH-230	0.498 +- 0.314	=	pCi/sample	93%	0.123	
		TH-232	0.00000 +- 0.111	ND	pCi/sample	93%	0.123	
000501	H8M1G1AE	ALPHA	-0.3740 +- 1.95	ND	pCi/sample	100%	5.28	
000501	H8M1G1AF	BETA	2.18 +- 2.62	ND	pCi/sample	100%	5.25	
000501	H8M1G1AC	RA-226	-0.0177 +- 0.258	ND	pCi/sample	102%	0.548	
000501	H8M1G1AD	RA-228	0.790 +- 0.939	ND	pCi/sample	94%	2.08	
P-0668	H8MXT1AG	U-234	0.158 +- 0.285	ND	pCi/sample	104%	0.557	
		U-235	0.0591 +- 0.205	ND	pCi/sample	104%	0.557	
		U-238	-0.0789 +- 0.0799	ND	pCi/sample	104%	0.677	
P-0668	H8MXT1AA	TH-228	0.0220 +- 0.0984	ND	pCi/sample	98%	0.264	
		TH-230	0.126 +- 0.148	ND	pCi/sample	98%	0.114	
		TH-232	0.126 +- 0.148	ND	pCi/sample	98%	0.114	
P-0668	H8MXT1AE	ALPHA	5.85 +- 4.03	ND	pCi/sample	100%	6.11	
P-0668	H8MXT1AF	BETA	26.3 +- 5.28	=	pCi/sample	100%	5.04	
P-0668	H8MXT1AC	RA-226	-0.4650 +- 0.484	ND	pCi/sample	95%	1.04	
P-0668	H8MXT1AD	RA-228	-0.2760 +- 1.02	ND	pCi/sample	87%	2.49	

STL Richland

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V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0669	H8MXV1AG	U-234	0.0992 +- 0.199	ND	pCi/sample	100%	0.269	
		U-235	-0.0595 +- 0.0694	ND	pCi/sample	100%	0.626	
		U-238	0.0397 +- 0.210	ND	pCi/sample	100%	0.626	
P-0669	H8MXV1AA	TH-228	0.0171 +- 0.0765	ND	pCi/sample	108%	0.205	
		TH-230	0.279 +- 0.205	=	pCi/sample	108%	0.197	
		TH-232	-0.0328 +- 0.0467	ND	pCi/sample	108%	0.241	
P-0669	H8MXV1AE	ALPHA	3.97 +- 2.99	ND	pCi/sample	100%	4.25	
P-0669	H8MXV1AF	BETA	21.3 +- 5.02	=	pCi/sample	100%	4.92	
P-0669	H8MXV1AC	RA-226	0.220 +- 0.496	ND	pCi/sample	108%	0.895	
P-0669	H8MXV1AD	RA-228	1.01 +- 1.00	ND	pCi/sample	98%	2.18	
P-0670	H8MXW1AG	U-234	0.182 +- 0.413	ND	pCi/sample	85%	0.934	
		U-235	0.273 +- 0.404	ND	pCi/sample	85%	0.718	
		U-238	-0.1370 +- 0.114	ND	pCi/sample	85%	0.888	
P-0670	H8MXW1AA	TH-228	-0.0953 +- 0.0869	ND	pCi/sample	90%	0.383	
		TH-230	0.493 +- 0.289	=	pCi/sample	90%	0.219	
		TH-232	0.0365 +- 0.0733	ND	pCi/sample	90%	0.099	
P-0670	H8MXW1AE	ALPHA	4.80 +- 3.27	=	pCi/sample	100%	4.22	
P-0670	H8MXW1AF	BETA	29.7 +- 5.62	=	pCi/sample	100%	5.11	
P-0670	H8MXW1AC	RA-226	1.34 +- 0.687	=	pCi/sample	95%	0.778	
P-0670	H8MXW1AD	RA-228	0.295 +- 1.21	ND	pCi/sample	86%	2.81	
P-0671	H8MXX1AG	U-234	0.190 +- 0.380	ND	pCi/sample	90%	0.822	
		U-235	0.0843 +- 0.215	ND	pCi/sample	90%	0.504	
		U-238	0.0843 +- 0.316	ND	pCi/sample	90%	0.822	
P-0671	H8MXX1AA	TH-228	0.113 +- 0.199	ND	pCi/sample	96%	0.381	
		TH-230	0.0435 +- 0.0873	ND	pCi/sample	96%	0.118	
		TH-232	0.00000 +- 0.107	ND	pCi/sample	96%	0.118	
P-0671	H8MXX1AE	ALPHA	4.91 +- 3.36	=	pCi/sample	100%	4.75	
P-0671	H8MXX1AF	BETA	33.2 +- 6.18	=	pCi/sample	100%	5.18	
P-0671	H8MXX1AC	RA-226	0.570 +- 0.538	ND	pCi/sample	86%	0.827	
P-0671	H8MXX1AD	RA-228	-0.2550 +- 1.12	ND	pCi/sample	77%	2.73	

STL Richland

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V4.15.0 A97

RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2
P-0672	H8MX31AG	U-234	0.114 +- 0.280	ND	pCi/sample	96%	0.653	
		U-235	-0.0380 +- 0.0541	ND	pCi/sample	96%	0.537	
		U-238	0.0190 +- 0.205	ND	pCi/sample	96%	0.653	
P-0672	H8MX31AA	TH-228	0.0901 +- 0.169	ND	pCi/sample	107%	0.332	
		TH-230	0.432 +- 0.284	=	pCi/sample	107%	0.117	
		TH-232	0.0432 +- 0.0868	ND	pCi/sample	107%	0.117	
P-0672	H8MX31AE	ALPHA	8.25 +- 4.18	=	pCi/sample	100%	4.04	
P-0672	H8MX31AF	BETA	24.8 +- 5.09	=	pCi/sample	100%	5.23	
P-0672	H8MX31AC	RA-226	-0.2460 +- 0.576	ND	pCi/sample	95%	1.16	
P-0672	H8MX31AD	RA-228	-0.2740 +- 0.985	ND	pCi/sample	82%	2.44	
P-0673	H8MX61AG	U-234	0.00000 +- 0.283	ND	pCi/sample	83%	0.313	
		U-235	-0.0231 +- 0.0464	ND	pCi/sample	83%	0.553	
		U-238	-0.0462 +- 0.0658	ND	pCi/sample	83%	0.653	
P-0673	H8MX61AA	TH-228	-0.0000374 +- 0.556	ND	pCi/sample	29%	1.49	
		TH-230	0.692 +- 0.722	ND	pCi/sample	29%	0.922	
		TH-232	0.00000 +- 0.377	ND	pCi/sample	29%	0.417	
P-0673	H8MX61AE	ALPHA	3.16 +- 3.06	ND	pCi/sample	100%	5.23	
P-0673	H8MX61AF	BETA	25.3 +- 5.10	=	pCi/sample	100%	5.13	
P-0673	H8MX61AC	RA-226	-0.2920 +- 0.559	ND	pCi/sample	83%	1.24	
P-0673	H8MX61AD	RA-228	1.56 +- 1.29	ND	pCi/sample	72%	2.73	
P-0674	H8MX81AG	U-234	0.0794 +- 0.203	ND	pCi/sample	102%	0.475	
		U-235	0.00000 +- 0.243	ND	pCi/sample	102%	0.269	
		U-238	-0.0199 +- 0.0398	ND	pCi/sample	102%	0.475	
P-0674	H8MX81AA	TH-228	0.0542 +- 0.254	ND	pCi/sample	70%	0.583	
		TH-230	0.597 +- 0.380	=	pCi/sample	70%	0.311	
		TH-232	0.0519 +- 0.104	ND	pCi/sample	70%	0.141	
P-0674	H8MX81AE	ALPHA	4.77 +- 3.26	=	pCi/sample	100%	4.44	
P-0674	H8MX81AF	BETA	27.1 +- 6.12	=	pCi/sample	100%	4.9	
P-0674	H8MX81AC	RA-226	0.691 +- 0.579	ND	pCi/sample	97%	0.86	
P-0674	H8MX81AD	RA-228	2.21 +- 1.05	=	pCi/sample	88%	1.88	

STL Richland

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RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

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Sample Results Summary

STL Richland STLR

Ordered by Client Sample ID, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No: 32052

Client ID	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	MDC|MDA	RER2

Number of Results: 150

STL Richland RER2 - Replicate Error Ratio = (S-D)/[sqrt(sq(TPUs)+sq(TPUd))] as defined by ICPT BOA.

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V4.15.0 A97

QC Results Summary
STL Richland STLR

Ordered by QC Type, Batch No.

Date: 27-Jul-06

Report No. : 32826

SDG No.: 32052

QC Type	Work Order Number	Parameter	Result +- Uncertainty (2s)	Qual	Units	Yield	Recovery	Bias	MDC|MDA
BLANK QC	H8W1L1AA	U-234	-0.00155 +- 0.00181	N	pCi/sample	101%			0.0322
		U-235	-0.00103 +- 0.00147	N	pCi/sample	101%			0.0295
		U-238	0.0129 +- 0.0184	N	pCi/sample	101%			0.0175
BLANK QC	H8W1N1AA	TH-228	0.0142 +- 0.0571	N	pCi/sample	27%			0.132
		TH-230	0.0205 +- 0.0412	N	pCi/sample	27%			0.0819
		TH-232	0.00000 +- 0.0334	N	pCi/sample	27%			0.037
BLANK QC	H8W1R1AA	ALPHA	0.00531 +- 0.0452	N	pCi/sample	100%			0.109
BLANK QC	H8W1T1AA	BETA	0.116 +- 0.194	N	pCi/sample	100%			0.395
BLANK QC	H8W101AA	RA-226	0.00760 +- 0.0911	N	pCi/sample	103%			0.184
BLANK QC	H8W141AA	RA-228	0.515 +- 0.237	=	pCi/sample	92%			0.406
LCS	H8W1L1AC	U-234	0.951 +- 0.242	=	pCi/sample	96%	98%	0.0	0.0514
		U-235	0.0447 +- 0.0413	=	pCi/sample	96%	101%	0.0	0.0366
		U-238	0.873 +- 0.228	=	pCi/sample	96%	86%	-0.1	0.0246
LCS	H8W1N1AC	TH-230	2.02 +- 0.450	=	pCi/sample	55%	111%	0.1	0.0174
LCS	H8W1R1AC	ALPHA	2.59 +- 0.596	=	pCi/sample	100%	109%	0.1	0.0939
LCS	H8W1T1AC	BETA	4.43 +- 0.701	=	pCi/sample	100%	97%	0.0	0.431
LCS	H8W101AC	RA-226	1.15 +- 0.315	=	pCi/sample	110%	83%	-0.2	0.121
LCS	H8W141AC	RA-228	3.90 +- 0.631	=	pCi/sample	99%	77%	-0.2	0.374

Number of Results: 18

STL Richland

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Bias - (Result/Expected)-1 as defined by ANSI N13.30.

= ERPIMS - Equal To, Analyte Detected

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-8
Client Sample ID: 000494
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/14/2006 1:00:00 AM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M0K1AG			**Report DB ID:** 9H8M0K10								
U-234	0.0925	ND	0.19	0.19	0.251	pCi/sample	105%	*0.37*	7/18/06 11:44 p	1.0	0.06234	E908.0
							1.0	*1.*		Sample	Sample	ALP8
U-235	-0.0185	ND	0.037	0.037	0.443	pCi/sample	105%	*-0.04*	7/18/06 11:44 p	1.0	0.06234	E908.0
						0.0962	1.0	*-1.*		Sample	Sample	ALP8
U-238	0.0740	ND	0.19	0.19	0.443	pCi/sample	105%	*0.17*	7/18/06 11:44 p	1.0	0.06234	E908.0
						0.0962	1.0	*0.78*		Sample	Sample	ALP8
								Ratio U-234/238 = 1.2				
Batch: 6191213	**Work Order:** H8M0K1AA			**Report DB ID:** 9H8M0K10								
TH-228	0.00000188	ND	0.16	0.16	0.404	pCi/sample	102%	*0.*	7/19/06 08:35 p	1.0	0.08371	ISOTH
						0.151	1.0	*0.*		Sample	Sample	ALP172
TH-230	0.414	=	0.25	0.26	0.216	pCi/sample	102%	*(1.9)*	7/19/06 08:35 p	1.0	0.08371	ISOTH
						0.0592	1.0	*(3.2)*		Sample	Sample	ALP172
TH-232	0.0000006	ND	0.088	0.088	0.265	pCi/sample	102%	*0.*	7/19/06 08:35 p	1.0	0.08371	ISOTH
						0.0837	1.0	*0.*		Sample	Sample	ALP172
Batch: 6191216	**Work Order:** H8M0K1AE			**Report DB ID:** 9H8M0K10								
ALPHA	6.02	=	3.1	3.4	3.06	pCi/sample	100%	*(2.)*	7/25/06 07:41 a	1.0	0.02119	E900.0
						1.04	20.0	*(3.6)*		Sample	Sample	GPC10C
Batch: 6191218	**Work Order:** H8M0K1AF			**Report DB ID:** 9H8M0K10								
BETA	36.3	=	4.4	6.8	5.67	pCi/sample	100%	*(6.4)*	7/24/06 07:37 p	1.0	0.08401	E900.0
						2.72	5.0	*(10.7)*		Sample	Sample	GPC32D
Batch: 6191220	**Work Order:** H8M0K1AC			**Report DB ID:** 9H8M0K10								

STL Richland
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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
SDG: 32052
Collection Date: 6/14/2006 1:00:00 AM
Lot-Sample No.: J6G030156-8
Report No. : 32826
Received Date: 7/3/2006 10:00:00 AM
Client Sample ID: 000494
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.514	ND	0.54	0.55	0.878	pCi/sample	91%	*0.59*	7/22/06 11:40 a	1.0	0.25431	E903.1
						0.368	1.0	*(1.9)*		Sample	Sample	ASCDSA
Batch: 6191221	**Work Order:** H8M0K1AD			**Report DB ID:** 9H8M0K10								
RA-228	2.06	=	1.0	1.1	1.99	pCi/sample	80%	*(1.)*	7/25/06 07:07 a	1.0	0.25431	E904.0
						0.861	3.1	*(3.8)*		Sample	Sample	GPC2B

Number of Results: 10

Comments:

STL Richland
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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland | **SDG:** 32052 | **Collection Date:** 6/14/2006 1:00:00 AM

Lot-Sample No.: J6G030156-9 | **Report No. :** 32826 | **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000495 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M0Q1AG			**Report DB ID:** 9H8M0Q10								
U-234	**0.0795**	ND	0.20	0.20	0.476	pCi/sample	99%	*0.17*	7/18/06 11:45 p	1.0	0.06258	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP9
U-235	**0.00000**	ND	0.0000	0.24	0.269	pCi/sample	99%	*0.*	7/18/06 11:45 p	1.0	0.06258	E908.0
							1.0	*0.*		Sample	Sample	ALP9
U-238	**0.0596**	ND	0.21	0.21	0.561	pCi/sample	99%	*0.11*	7/18/06 11:45 p	1.0	0.06258	E908.0
						0.146	1.0	*0.58*		Sample	Sample	ALP9
								Ratio U-234/238 = 1.3				
Batch: 6191213	**Work Order:** H8M0Q1AA			**Report DB ID:** 9H8M0Q10								
TH-228	**0.161**	ND	0.19	0.19	0.277	pCi/sample	96%	*0.58*	7/19/06 08:35 p	1.0	0.08361	ISOTH
						0.0759	1.0	*(1.7)*		Sample	Sample	ALP173
TH-230	**0.265**	=	0.22	0.22	0.12	pCi/sample	96%	*(2.2)*	7/19/06 08:35 p	1.0	0.08361	ISOTH
							1.0	*(2.4)*		Sample	Sample	ALP173
TH-232	**0.0442**	ND	0.088	0.089	0.12	pCi/sample	96%	*0.37*	7/19/06 08:35 p	1.0	0.08361	ISOTH
							1.0	*1.*		Sample	Sample	ALP173
Batch: 6191216	**Work Order:** H8M0Q1AE			**Report DB ID:** 9H8M0Q10								
ALPHA	**7.12**	=	3.9	4.1	5.6	pCi/sample	100%	*(1.3)*	7/25/06 07:41 a	1.0	0.02097	E900.0
						2.33	20.0	*(3.4)*		Sample	Sample	GPC10D
Batch: 6191218	**Work Order:** H8M0Q1AF			**Report DB ID:** 9H8M0Q10								
BETA	**34.6**	=	4.2	6.6	5.56	pCi/sample	100%	*(6.2)*	7/25/06 08:04 a	1.0	0.08423	E900.0
						2.68	5.0	*(10.5)*		Sample	Sample	GPC26A
Batch: 6191220	**Work Order:** H8M0Q1AC			**Report DB ID:** 9H8M0Q10								

STL Richland
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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-9
Client Sample ID: 000495
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/14/2006 1:00:00 AM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.225	ND	0.38	0.38	0.664	pCi/sample	99%	*0.34*	7/22/06 12:11 p	1.0	0.25156	E903.1
						0.286	1.0	*(1.2)*		Sample	Sample	ASCEHB
Batch: 6191221	**Work Order:** H8M0Q1AD			**Report DB ID:** 9H8M0Q10								
RA-228	1.12	ND	0.81	0.84	1.72	pCi/sample	89%	*0.65*	7/25/06 07:07 a	1.0	0.25156	E904.0
						0.736	3.1	*(2.7)*		Sample	Sample	GPC2C

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-10
Client Sample ID: 000496
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/13/2006 4:00:00 AM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M0V1AG			**Report DB ID:** 9H8M0V10								
U-234	-0.0195	ND	0.039	0.039	0.468	pCi/sample	106%	*-0.04*	7/18/06 11:45 p	1.0	0.06247	E908.0
						0.102	1.0	*-1.*		Sample	Sample	ALP10
U-235	0.00000	ND	0.0000	0.24	0.265	pCi/sample	106%	*0.*	7/18/06 11:45 p	1.0	0.06247	E908.0
							1.0	*0.*		Sample	Sample	ALP10
U-238	0.0781	ND	0.20	0.20	0.468	pCi/sample	106%	*0.17*	7/18/06 11:45 p	1.0	0.06247	E908.0
						0.102	1.0	*0.78*		Sample	Sample	ALP10
								Ratio U-234/238 = -0.3				
Batch: 6191213	**Work Order:** H8M0V1AA			**Report DB ID:** 9H8M0V10								
TH-228	0.0900	ND	0.13	0.13	0.122	pCi/sample	105%	*0.74*	7/19/06 08:35 p	1.0	0.08426	ISOTH
							1.0	*(1.4)*		Sample	Sample	ALP174
TH-230	0.173	ND	0.17	0.18	0.117	pCi/sample	105%	*(1.5)*	7/19/06 08:35 p	1.0	0.08426	ISOTH
							1.0	*(2.)*		Sample	Sample	ALP174
TH-232	0.0431	ND	0.086	0.087	0.117	pCi/sample	105%	*0.37*	7/19/06 08:35 p	1.0	0.08426	ISOTH
							1.0	*1.*		Sample	Sample	ALP174
Batch: 6191216	**Work Order:** H8M0V1AE			**Report DB ID:** 9H8M0V10								
ALPHA	3.71	ND	3.1	3.2	5.23	pCi/sample	100%	*0.71*	7/25/06 07:41 a	1.0	0.02097	E900.0
						2.11	20.0	*(2.3)*		Sample	Sample	GPC10E
Batch: 6191218	**Work Order:** H8M0V1AF			**Report DB ID:** 9H8M0V10								
BETA	26.2	=	3.9	5.3	5.43	pCi/sample	100%	*(4.8)*	7/25/06 08:04 a	1.0	0.08487	E900.0
						2.61	5.0	*(9.8)*		Sample	Sample	GPC26B
Batch: 6191220	**Work Order:** H8M0V1AC			**Report DB ID:** 9H8M0V10								

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-10
Client Sample ID: 000496
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/13/2006 4:00:00 AM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.611	ND	0.60	0.61	0.968	pCi/sample	98%	*0.63*	7/22/06 12:12 p	1.0	0.2504	E903.1
						0.409	1.0	*(2.)*		Sample	Sample	ASCFSA
Batch: 6191221	**Work Order:** H8M0V1AD			**Report DB ID:** 9H8M0V10								
RA-228	0.759	ND	0.82	0.87	1.93	pCi/sample	88%	*0.39*	7/25/06 07:07 a	1.0	0.2504	E904.0
						0.84	3.1	*(1.7)*		Sample	Sample	GPC2D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-11
Client Sample ID: 000497
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/13/2006 2:00:00 PM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M051AG			**Report DB ID:** 9H8M0510								
U-234	**0.00000**	ND	0.0000	0.23	0.254	pCi/sample	94%	*0.*	7/18/06 11:45 p	1.0	0.06247	E908.0
							1.0	*0.*		Sample	Sample	ALP11
U-235	**-0.0188**	ND	0.038	0.038	0.449	pCi/sample	94%	*-0.04*	7/18/06 11:45 p	1.0	0.06247	E908.0
						0.0975	1.0	*-1.*		Sample	Sample	ALP11
U-238	**0.0750**	ND	0.19	0.19	0.449	pCi/sample	94%	*0.17*	7/18/06 11:45 p	1.0	0.06247	E908.0
						0.0975	1.0	*0.78*		Sample	Sample	ALP11
Batch: 6191213	**Work Order:** H8M051AA			**Report DB ID:** 9H8M0510								
TH-228	**0.0578**	ND	0.12	0.12	0.231	pCi/sample	109%	*0.25*	7/19/06 08:35 p	1.0	0.08315	ISOTH
						0.0634	1.0	*1.*		Sample	Sample	ALP175
TH-230	**0.296**	=	0.21	0.22	0.1	pCi/sample	109%	*(3.)*	7/19/06 08:35 p	1.0	0.08315	ISOTH
							1.0	*(2.7)*		Sample	Sample	ALP175
TH-232	**0.0924**	ND	0.13	0.13	0.222	pCi/sample	109%	*0.42*	7/19/06 08:35 p	1.0	0.08315	ISOTH
						0.0608	1.0	*(1.4)*		Sample	Sample	ALP175
Batch: 6191216	**Work Order:** H8M051AE			**Report DB ID:** 9H8M0510								
ALPHA	**4.55**	ND	3.3	3.4	5.15	pCi/sample	100%	*0.88*	7/25/06 10:25 a	1.0	0.02117	E900.0
						2.09	20.0	*(2.7)*		Sample	Sample	GPC10A
Batch: 6191218	**Work Order:** H8M051AF			**Report DB ID:** 9H8M0510								
BETA	**32.0**	=	4.1	6.0	5.27	pCi/sample	100%	*(6.1)*	7/25/06 08:04 a	1.0	0.0849	E900.0
						2.52	5.0	*(10.6)*		Sample	Sample	GPC26C
Batch: 6191220	**Work Order:** H8M051AC			**Report DB ID:** 9H8M0510								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-11
Client Sample ID: 000497
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/13/2006 2:00:00 PM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.00705	ND	0.28	0.28	0.59	pCi/sample	96%	*0.01*	7/22/06 12:09 p	1.0	0.24894	E903.1
						0.238	1.0	*0.05*		Sample	Sample	ASCGSA
Batch: 6191221	**Work Order:** H8M051AD			**Report DB ID:** 9H8M0510								
RA-228	0.837	ND	0.74	0.77	1.64	pCi/sample	85%	*0.51*	7/25/06 07:07 a	1.0	0.24894	E904.0
						0.696	3.1	*(2.2)*		Sample	Sample	GPC3A

Number of Results: 10

Comments:

STL Richland
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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/13/2006 12:00:00 PM

Lot-Sample No.: J6G030156-12 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000498 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M081AG			**Report DB ID:** 9H8M0810								
U-234	**0.198**	ND	0.28	0.28	0.268	pCi/sample	104%	*0.74*	7/18/06 11:45 p	1.0	0.06198	E908.0
							1.0	*(1.4)*		Sample	Sample	ALP12
U-235	**0.00000**	ND	0.0000	0.24	0.268	pCi/sample	104%	*0.*	7/18/06 11:45 p	1.0	0.06198	E908.0
							1.0	*0.*		Sample	Sample	ALP12
U-238	**-0.0198**	ND	0.040	0.040	0.474	pCi/sample	104%	*-0.04*	7/18/06 11:45 p	1.0	0.06198	E908.0
						0.103	1.0	*-1.*		Sample	Sample	ALP12
								Ratio U-234/238 = -10.0				
Batch: 6191213	**Work Order:** H8M081AA			**Report DB ID:** 9H8M0810								
TH-228	**0.171**	ND	0.20	0.20	0.319	pCi/sample	103%	*0.54*	7/19/06 08:35 p	1.0	0.08514	ISOTH
						0.108	1.0	*(1.7)*		Sample	Sample	ALP176
TH-230	**0.418**	=	0.25	0.26	0.218	pCi/sample	103%	*(1.9)*	7/19/06 08:35 p	1.0	0.08514	ISOTH
						0.0598	1.0	*(3.2)*		Sample	Sample	ALP176
TH-232	**0.00000061**	ND	0.089	0.089	0.267	pCi/sample	103%	*0.*	7/19/06 08:35 p	1.0	0.08514	ISOTH
						0.0846	1.0	*0.*		Sample	Sample	ALP176
Batch: 6191216	**Work Order:** H8M081AE			**Report DB ID:** 9H8M0810								
ALPHA	**4.43**	ND	3.0	3.2	4.46	pCi/sample	100%	*0.99*	7/25/06 10:25 a	1.0	0.02107	E900.0
						1.75	20.0	*(2.8)*		Sample	Sample	GPC10B
Batch: 6191218	**Work Order:** H8M081AF			**Report DB ID:** 9H8M0810								
BETA	**33.8**	=	4.0	6.1	4.96	pCi/sample	100%	*(6.8)*	7/25/06 08:04 a	1.0	0.08705	E900.0
						2.38	5.0	*(11.1)*		Sample	Sample	GPC27A
Batch: 6191220	**Work Order:** H8M081AC			**Report DB ID:** 9H8M0810								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland | **SDG:** 32052 | **Collection Date:** 6/13/2006 12:00:00 PM

Lot-Sample No.: J6G030156-12 | **Report No. :** 32826 | **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000498 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.240	ND	0.38	0.38	0.662	pCi/sample	93%	*0.36*	7/22/06 12:11 p	1.0	0.24946	E903.1
						0.27	1.0	*(1.3)*		Sample	Sample	ASCJSB
Batch: 6191221	**Work Order:** H8M081AD			**Report DB ID:** 9H8M0810								
RA-228	2.42	=	0.98	1.0	1.74	pCi/sample	81%	*(1.4)*	7/25/06 07:07 a	1.0	0.24946	E904.0
						0.742	3.1	*(4.7)*		Sample	Sample	GPC3B

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/13/2006 1:00:00 PM

Lot-Sample No.: J6G030156-13 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000499 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M1C1AG			**Report DB ID:** 9H8M1C10								
U-234	**-0.0418**	ND	0.037	0.038	0.591	pCi/sample	94%	*-0.07*	7/18/06 11:45 p	1.0	0.06152	E908.0
						0.154	1.0	*-(2.2)*		Sample	Sample	ALP69
U-235	**-0.0251**	ND	0.029	0.029	0.522	pCi/sample	94%	*-0.05*	7/18/06 11:45 p	1.0	0.06152	E908.0
						0.119	1.0	*-(1.7)*		Sample	Sample	ALP69
U-238	**-0.0586**	ND	0.044	0.045	0.647	pCi/sample	94%	*-0.09*	7/18/06 11:45 p	1.0	0.06152	E908.0
						0.182	1.0	*-(2.6)*		Sample	Sample	ALP69
								Ratio U-234/238 = 0.7				
Batch: 6191213	**Work Order:** H8M1C1AA			**Report DB ID:** 9H8M1C10								
TH-228	**0.0643**	ND	0.13	0.13	0.257	pCi/sample	100%	*0.25*	7/19/06 08:35 p	1.0	0.08393	ISOTH
						0.0705	1.0	*1.*		Sample	Sample	ALP177
TH-230	**0.247**	=	0.20	0.21	0.111	pCi/sample	100%	*(2.2)*	7/19/06 08:35 p	1.0	0.08393	ISOTH
							1.0	*(2.4)*		Sample	Sample	ALP177
TH-232	**0.00000**	ND	0.0000	0.10	0.111	pCi/sample	100%	*0.*	7/19/06 08:35 p	1.0	0.08393	ISOTH
							1.0	*0.*		Sample	Sample	ALP177
Batch: 6191216	**Work Order:** H8M1C1AE			**Report DB ID:** 9H8M1C10								
ALPHA	**2.83**	ND	2.3	2.4	3.17	pCi/sample	100%	*0.89*	7/25/06 10:25 a	1.0	0.0205	E900.0
						1.07	20.0	*(2.4)*		Sample	Sample	GPC10C
Batch: 6191218	**Work Order:** H8M1C1AF			**Report DB ID:** 9H8M1C10								
BETA	**35.7**	=	4.1	6.4	5.01	pCi/sample	100%	*(7.1)*	7/25/06 08:04 a	1.0	0.08287	E900.0
						2.4	5.0	*(11.2)*		Sample	Sample	GPC27C
Batch: 6191220	**Work Order:** H8M1C1AC			**Report DB ID:** 9H8M1C10								

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/13/2006 1:00:00 PM

Lot-Sample No.: J6G030156-13 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000499 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.290	ND	0.37	0.37	0.621	pCi/sample	99%	*0.47*	7/22/06 12:12 p	1.0	0.24731	E903.1
						0.26	1.0	*(1.6)*		Sample	Sample	ASCLMC
Batch: 6191221	**Work Order:** H8M1C1AD			**Report DB ID:** 9H8M1C10								
RA-228	1.63	ND	0.92	0.98	1.93	pCi/sample	85%	*0.85*	7/25/06 07:07 a	1.0	0.24731	E904.0
						0.841	3.1	*(3.3)*		Sample	Sample	GPC3C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland | **SDG:** 32052 | **Collection Date:** 6/13/2006 9:00:00 AM

Lot-Sample No.: J6G030156-14 | **Report No. :** 32826 | **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000500 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M1E1AG			**Report DB ID:** 9H8M1E10								
U-234	-0.0243	ND	0.028	0.028	0.505	pCi/sample	97%	*-0.05*	7/18/06 11:46 p	1.0	0.06256	E908.0
						0.115	1.0	*-(1.7)*		Sample	Sample	ALP71
U-235	-0.0243	ND	0.028	0.028	0.505	pCi/sample	97%	*-0.05*	7/18/06 11:46 p	1.0	0.06256	E908.0
						0.115	1.0	*-(1.7)*		Sample	Sample	ALP71
U-238	-0.0324	ND	0.032	0.033	0.54	pCi/sample	97%	*-0.06*	7/18/06 11:46 p	1.0	0.06256	E908.0
						0.133	1.0	*-(2.)*		Sample	Sample	ALP71
								Ratio U-234/238 = 0.8				
Batch: 6191213	**Work Order:** H8M1E1AA			**Report DB ID:** 9H8M1E10								
TH-228	0.0185	ND	0.083	0.083	0.222	pCi/sample	96%	*0.08*	7/19/06 08:35 p	1.0	0.08455	ISOTH
						0.0608	1.0	*0.45*		Sample	Sample	ALP178
TH-230	0.0531	ND	0.11	0.11	0.212	pCi/sample	96%	*0.25*	7/19/06 08:35 p	1.0	0.08455	ISOTH
						0.0583	1.0	*1.*		Sample	Sample	ALP178
TH-232	-0.0354	ND	0.050	0.050	0.261	pCi/sample	96%	*-0.14*	7/19/06 08:35 p	1.0	0.08455	ISOTH
						0.0824	1.0	*-(1.4)*		Sample	Sample	ALP178
Batch: 6191216	**Work Order:** H8M1E1AE			**Report DB ID:** 9H8M1E10								
ALPHA	-0.1360	ND	2.2	2.2	5.49	pCi/sample	100%	*-0.02*	7/25/06 10:25 a	1.0	0.02137	E900.0
						2.29	20.0	*-0.12*		Sample	Sample	GPC10D
Batch: 6191218	**Work Order:** H8M1E1AF			**Report DB ID:** 9H8M1E10								
BETA	0.0475	ND	2.3	2.3	4.97	pCi/sample	100%	*0.01*	7/25/06 08:04 a	1.0	0.08485	E900.0
						2.38	5.0	*0.04*		Sample	Sample	GPC27D
Batch: 6191220	**Work Order:** H8M1E1AC			**Report DB ID:** 9H8M1E10								

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/13/2006 9:00:00 AM

Lot-Sample No.: J6G030156-14 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000500 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.0248**	ND	0.37	0.37	0.732	pCi/sample	96%	*0.03*	7/22/06 12:10 p	1.0	0.25908	E903.1
						0.316	1.0	*0.13*		Sample	Sample	ASCMRA
Batch: 6191221	**Work Order:** H8M1E1AD			**Report DB ID:** 9H8M1E10								
RA-228	**0.788**	ND	0.77	0.78	1.7	pCi/sample	84%	*0.46*	7/25/06 07:07 a	1.0	0.25908	E904.0
						0.73	3.1	*(2.)*		Sample	Sample	GPC3D

Number of Results: 10

Comments:

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MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/13/2006

Lot-Sample No.: J6G030156-15 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: 000501 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8M1G1AG			**Report DB ID:** 9H8M1G10								
U-234	-0.0419	ND	0.037	0.038	0.592	pCi/sample	101%	-0.07	7/18/06 11:46 p	1.0	0.0618	E908.0
						0.154	1.0	-(2.2)		Sample	Sample	ALP83
U-235	-0.0168	ND	0.024	0.024	0.479	pCi/sample	101%	-0.04	7/18/06 11:46 p	1.0	0.0618	E908.0
						0.0975	1.0	-(1.4)		Sample	Sample	ALP83
U-238	-0.0335	ND	0.034	0.034	0.56	pCi/sample	101%	-0.06	7/18/06 11:46 p	1.0	0.0618	E908.0
						0.138	1.0	-(2.)		Sample	Sample	ALP83
								Ratio U-234/238 = 1.3				
Batch: 6191213	**Work Order:** H8M1G1AA			**Report DB ID:** 9H8M1G10								
TH-228	0.0472	ND	0.15	0.15	0.348	pCi/sample	93%	0.14	7/19/06 08:36 p	1.0	0.08504	ISOTH
						0.11	1.0	0.63		Sample	Sample	ALP119
TH-230	0.498	=	0.30	0.31	0.123	pCi/sample	93%	(4.1)	7/19/06 08:36 p	1.0	0.08504	ISOTH
							1.0	(3.2)		Sample	Sample	ALP119
TH-232	0.00000	ND	0.0000	0.11	0.123	pCi/sample	93%	0.	7/19/06 08:36 p	1.0	0.08504	ISOTH
							1.0	0.		Sample	Sample	ALP119
Batch: 6191216	**Work Order:** H8M1G1AE			**Report DB ID:** 9H8M1G10								
ALPHA	-0.3740	ND	2.0	2.0	5.28	pCi/sample	100%	-0.07	7/25/06 10:25 a	1.0	0.02079	E900.0
						2.13	20.0	-0.38		Sample	Sample	GPC10E
Batch: 6191218	**Work Order:** H8M1G1AF			**Report DB ID:** 9H8M1G10								
BETA	2.18	ND	2.6	2.6	5.25	pCi/sample	100%	0.42	7/25/06 08:03 a	1.0	0.08328	E900.0
						2.51	5.0	(1.7)		Sample	Sample	GPC31A
Batch: 6191220	**Work Order:** H8M1G1AC			**Report DB ID:** 9H8M1G10								

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
SDG: 32052
Collection Date: 6/13/2006
Lot-Sample No.: J6G030156-15
Report No. : 32826
Received Date: 7/3/2006 10:00:00 AM
Client Sample ID: 000501
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.0177	ND	0.26	0.26	0.548	pCi/sample	102%	*-0.03*	7/22/06 12:13 p	1.0	0.24869	E903.1
						0.226	1.0	*-0.14*		Sample	Sample	ASCQMB
Batch: 6191221	**Work Order:** H8M1G1AD			**Report DB ID:** 9H8M1G10								
RA-228	0.790	ND	0.91	0.94	2.08	pCi/sample	94%	*0.38*	7/25/06 07:08 a	1.0	0.24869	E904.0
						0.934	3.1	*(1.7)*		Sample	Sample	GPC4A

Number of Results: 10

Comments:

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 2:25:00 PM

Lot-Sample No.: J6G030156-1 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0668 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MXT1AG			**Report DB ID:** 9H8MXT10								
U-234	**0.158**	ND	0.28	0.29	0.557	pCi/sample	104%	*0.28*	7/18/06 11:43 p	1.0	0.06244	E908.0
						0.145	1.0	*(1.1)*		Sample	Sample	ALP1
U-235	**0.0591**	ND	0.20	0.21	0.557	pCi/sample	104%	*0.11*	7/18/06 11:43 p	1.0	0.06244	E908.0
						0.145	1.0	*0.58*		Sample	Sample	ALP1
U-238	**-0.0789**	ND	0.079	0.080	0.677	pCi/sample	104%	*-0.12*	7/18/06 11:43 p	1.0	0.06244	E908.0
						0.205	1.0	*-(2.)*		Sample	Sample	ALP1
								Ratio U-234/238 = -2.0				
Batch: 6191213	**Work Order:** H8MXT1AA			**Report DB ID:** 9H8MXT10								
TH-228	**0.0220**	ND	0.098	0.098	0.264	pCi/sample	98%	*0.08*	7/19/06 10:14 a	1.0	0.08395	ISOTH
						0.0723	1.0	*0.45*		Sample	Sample	ALP177
TH-230	**0.126**	ND	0.15	0.15	0.114	pCi/sample	98%	*(1.1)*	7/19/06 10:14 a	1.0	0.08395	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP177
TH-232	**0.126**	ND	0.15	0.15	0.114	pCi/sample	98%	*(1.1)*	7/19/06 10:14 a	1.0	0.08395	ISOTH
							1.0	*(1.7)*		Sample	Sample	ALP177
Batch: 6191216	**Work Order:** H8MXT1AE			**Report DB ID:** 9H8MXT10								
ALPHA	**5.85**	ND	3.8	4.0	6.11	pCi/sample	100%	*0.96*	7/24/06 07:41 p	1.0	0.02123	E900.0
						2.57	20.0	*(2.9)*		Sample	Sample	GPC10A
Batch: 6191218	**Work Order:** H8MXT1AF			**Report DB ID:** 9H8MXT10								
BETA	**26.3**	=	3.7	5.3	5.04	pCi/sample	100%	*(5.2)*	7/24/06 07:37 p	1.0	0.08503	E900.0
						2.41	5.0	*(10.)*		Sample	Sample	GPC31A
Batch: 6191220	**Work Order:** H8MXT1AC			**Report DB ID:** 9H8MXT10								

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 2:25:00 PM

Lot-Sample No.: J6G030156-1 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0668 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.4650	ND	0.47	0.48	1.04	pCi/sample	95%	*-0.45*	7/22/06 11:42 a	1.0	0.25352	E903.1
						0.467	1.0	*-(1.9)*		Sample	Sample	ASC1HB
Batch: 6191221	**Work Order:** H8MXT1AD			**Report DB ID:** 9H8MXT10								
RA-228	-0.2760	ND	1.0	1.0	2.49	pCi/sample	87%	*-0.11*	7/25/06 07:07 a	1.0	0.25352	E904.0
						1.14	3.1	*-0.54*		Sample	Sample	GPC7A

Number of Results: 10

Comments:

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 3:45:00 PM

Lot-Sample No.: J6G030156-2 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0669 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MXV1AG			**Report DB ID:** 9H8MXV10								
U-234	**0.0992**	ND	0.20	0.20	0.269	pCi/sample	100%	*0.37*	7/18/06 11:43 p	1.0	0.0627	E908.0
							1.0	*1.*		Sample	Sample	ALP2
U-235	**-0.0595**	ND	0.069	0.069	0.626	pCi/sample	100%	*-0.1*	7/18/06 11:43 p	1.0	0.0627	E908.0
						0.179	1.0	*-(1.7)*		Sample	Sample	ALP2
U-238	**0.0397**	ND	0.21	0.21	0.626	pCi/sample	100%	*0.06*	7/18/06 11:43 p	1.0	0.0627	E908.0
						0.179	1.0	*0.38*		Sample	Sample	ALP2
								Ratio U-234/238 = 2.5				
Batch: 6191213	**Work Order:** H8MXV1AA			**Report DB ID:** 9H8MXV10								
TH-228	**0.0171**	ND	0.076	0.077	0.205	pCi/sample	108%	*0.08*	7/19/06 10:14 a	1.0	0.08779	ISOTH
						0.0563	1.0	*0.45*		Sample	Sample	ALP178
TH-230	**0.279**	=	0.20	0.21	0.197	pCi/sample	108%	*(1.4)*	7/19/06 10:14 a	1.0	0.08779	ISOTH
						0.0539	1.0	*(2.7)*		Sample	Sample	ALP178
TH-232	**-0.0328**	ND	0.046	0.047	0.241	pCi/sample	108%	*-0.14*	7/19/06 10:14 a	1.0	0.08779	ISOTH
						0.0763	1.0	*-(1.4)*		Sample	Sample	ALP178
Batch: 6191216	**Work Order:** H8MXV1AE			**Report DB ID:** 9H8MXV10								
ALPHA	**3.97**	ND	2.9	3.0	4.25	pCi/sample	100%	*0.93*	7/24/06 07:41 p	1.0	0.02089	E900.0
						1.64	20.0	*(2.7)*		Sample	Sample	GPC10B
Batch: 6191218	**Work Order:** H8MXV1AF			**Report DB ID:** 9H8MXV10								
BETA	**21.3**	=	3.5	5.0	4.92	pCi/sample	100%	*(4.3)*	7/24/06 07:37 p	1.0	0.08365	E900.0
						2.35	5.0	*(8.5)*		Sample	Sample	GPC31B
Batch: 6191220	**Work Order:** H8MXV1AC			**Report DB ID:** 9H8MXV10								

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FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
SDG: 32052
Collection Date: 6/12/2006 3:45:00 PM
Lot-Sample No.: J6G030156-2
Report No. : 32826
Received Date: 7/3/2006 10:00:00 AM
Client Sample ID: P-0669
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.220**	ND	0.49	0.50	0.895	pCi/sample	108%	*0.25*	7/22/06 11:40 a	1.0	0.25436	E903.1
						0.392	1.0	*0.89*		Sample	Sample	ASC2RC
Batch: 6191221	**Work Order:** H8MXV1AD			**Report DB ID:** 9H8MXV10								
RA-228	**1.01**	ND	0.98	1.0	2.18	pCi/sample	98%	*0.46*	7/25/06 07:07 a	1.0	0.25436	E904.0
						0.997	3.1	*(2.)*		Sample	Sample	GPC7B

Number of Results: 10

Comments:

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 4:45:00 PM

Lot-Sample No.: J6G030156-3 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0670 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MXW1AG			**Report DB ID:** 9H8MXW10								
U-234	**0.182**	ND	0.41	0.41	0.934	pCi/sample	85%	*0.19*	7/18/06 11:43 p	1.0	0.06157	E908.0
						0.313	1.0	*0.88*		Sample	Sample	ALP3
U-235	**0.273**	ND	0.40	0.40	0.718	pCi/sample	85%	*0.38*	7/18/06 11:43 p	1.0	0.06157	E908.0
						0.205	1.0	*(1.4)*		Sample	Sample	ALP3
U-238	**-0.1370**	ND	0.11	0.11	0.888	pCi/sample	85%	*-0.15*	7/18/06 11:43 p	1.0	0.06157	E908.0
						0.29	1.0	*-(2.4)*		Sample	Sample	ALP3
								Ratio U-234/238 = -1.3				
Batch: 6191213	**Work Order:** H8MXW1AA			**Report DB ID:** 9H8MXW10								
TH-228	**-0.0953**	ND	0.085	0.087	0.383	pCi/sample	90%	*-0.25*	7/19/06 10:14 a	1.0	0.08344	ISOTH
						0.14	1.0	*-(2.2)*		Sample	Sample	ALP114
TH-230	**0.493**	=	0.28	0.29	0.219	pCi/sample	90%	*(2.3)*	7/19/06 10:14 a	1.0	0.08344	ISOTH
						0.0601	1.0	*(3.4)*		Sample	Sample	ALP114
TH-232	**0.0365**	ND	0.073	0.073	0.099	pCi/sample	90%	*0.37*	7/19/06 10:14 a	1.0	0.08344	ISOTH
							1.0	*1.*		Sample	Sample	ALP114
Batch: 6191216	**Work Order:** H8MXW1AE			**Report DB ID:** 9H8MXW10								
ALPHA	**4.80**	=	3.1	3.3	4.22	pCi/sample	100%	*(1.1)*	7/24/06 07:41 p	1.0	0.02045	E900.0
						1.6	20.0	*(2.9)*		Sample	Sample	GPC10C
Batch: 6191218	**Work Order:** H8MXW1AF			**Report DB ID:** 9H8MXW10								
BETA	**29.7**	=	3.9	5.6	5.11	pCi/sample	100%	*(5.8)*	7/24/06 07:37 p	1.0	0.08441	E900.0
						2.45	5.0	*(10.6)*		Sample	Sample	GPC31C
Batch: 6191220	**Work Order:** H8MXW1AC			**Report DB ID:** 9H8MXW10								

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V4.15.0 A97

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= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland | **SDG:** 32052 | **Collection Date:** 6/12/2006 4:45:00 PM

Lot-Sample No.: J6G030156-3 | **Report No. :** 32826 | **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0670 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	1.34	=	0.63	0.69	0.778	pCi/sample	95%	*(1.7)*	7/22/06 11:39 a	1.0	0.252	E903.1
						0.326	1.0	*(3.9)*		Sample	Sample	ASC3RA
Batch: 6191221	**Work Order:** H8MXW1AD			**Report DB ID:** 9H8MXW10								
RA-228	0.295	ND	1.2	1.2	2.81	pCi/sample	86%	*0.1*	7/25/06 07:07 a	1.0	0.252	E904.0
						1.29	3.1	*0.49*		Sample	Sample	GPC7C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland | **SDG:** 32052 | **Collection Date:** 6/12/2006 5:50:00 PM

Lot-Sample No.: J6G030156-4 | **Report No. :** 32826 | **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0671 | **COC No. :** | **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MXX1AG			**Report DB ID:** 9H8MXX10								
U-234	**0.190**	ND	0.38	0.38	0.822	pCi/sample	90%	*0.23*	7/18/06 11:43 p	1.0	0.06278	E908.0
						0.268	1.0	*1.*		Sample	Sample	ALP4
U-235	**0.0843**	ND	0.21	0.22	0.504	pCi/sample	90%	*0.17*	7/18/06 11:43 p	1.0	0.06278	E908.0
						0.11	1.0	*0.78*		Sample	Sample	ALP4
U-238	**0.0843**	ND	0.32	0.32	0.822	pCi/sample	90%	*0.1*	7/18/06 11:43 p	1.0	0.06278	E908.0
						0.268	1.0	*0.53*		Sample	Sample	ALP4
								Ratio U-234/238 = 2.2				
Batch: 6191213	**Work Order:** H8MXX1AA			**Report DB ID:** 9H8MXX10								
TH-228	**0.113**	ND	0.20	0.20	0.381	pCi/sample	96%	*0.3*	7/19/06 10:14 a	1.0	0.08477	ISOTH
						0.129	1.0	*(1.1)*		Sample	Sample	ALP116
TH-230	**0.0435**	ND	0.087	0.087	0.118	pCi/sample	96%	*0.37*	7/19/06 10:14 a	1.0	0.08477	ISOTH
							1.0	*1.*		Sample	Sample	ALP116
TH-232	**0.00000**	ND	0.0000	0.11	0.118	pCi/sample	96%	*0.*	7/19/06 10:14 a	1.0	0.08477	ISOTH
							1.0	*0.*		Sample	Sample	ALP116
Batch: 6191216	**Work Order:** H8MXX1AE			**Report DB ID:** 9H8MXX10								
ALPHA	**4.91**	=	3.2	3.4	4.75	pCi/sample	100%	*(1.)*	7/24/06 07:41 p	1.0	0.02111	E900.0
						1.91	20.0	*(2.9)*		Sample	Sample	GPC10D
Batch: 6191218	**Work Order:** H8MXX1AF			**Report DB ID:** 9H8MXX10								
BETA	**33.2**	=	4.1	6.2	5.18	pCi/sample	100%	*(6.4)*	7/24/06 07:37 p	1.0	0.0846	E900.0
						2.48	5.0	*(10.7)*		Sample	Sample	GPC31D
Batch: 6191220	**Work Order:** H8MXX1AC			**Report DB ID:** 9H8MXX10								

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
SDG: 32052
Collection Date: 6/12/2006 5:50:00 PM
Lot-Sample No.: J6G030156-4
Report No. : 32826
Received Date: 7/3/2006 10:00:00 AM
Client Sample ID: P-0671
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	**0.570**	ND	0.52	0.54	0.827	pCi/sample	86%	*0.69*	7/22/06 11:41 a	1.0	0.25141	E903.1
						0.349	1.0	*(2.1)*		Sample	Sample	ASC4UA
Batch: 6191221	**Work Order:** H8MXX1AD			**Report DB ID:** 9H8MXX10								
RA-228	**-0.2550**	ND	1.1	1.1	2.73	pCi/sample	77%	*-0.09*	7/25/06 08:06 a	1.0	0.25141	E904.0
						1.25	3.1	*-0.46*		Sample	Sample	GPC1A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 6:35:00 PM

Lot-Sample No.: J6G030156-5 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0672 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MX31AG			**Report DB ID:** 9H8MX310								
U-234	**0.114**	ND	0.28	0.28	0.653	pCi/sample	96%	*0.17*	7/18/06 11:44 p	1.0	0.06266	E908.0
						0.198	1.0	*0.81*		Sample	Sample	ALP5
U-235	**-0.0380**	ND	0.054	0.054	0.537	pCi/sample	96%	*-0.07*	7/18/06 11:44 p	1.0	0.06266	E908.0
						0.14	1.0	*-(1.4)*		Sample	Sample	ALP5
U-238	**0.0190**	ND	0.20	0.20	0.653	pCi/sample	96%	*0.03*	7/18/06 11:44 p	1.0	0.06266	E908.0
						0.198	1.0	*0.19*		Sample	Sample	ALP5
								Ratio U-234/238 = 6.0				
Batch: 6191213	**Work Order:** H8MX31AA			**Report DB ID:** 9H8MX310								
TH-228	**0.0901**	ND	0.17	0.17	0.332	pCi/sample	107%	*0.27*	7/19/06 10:14 a	1.0	0.08286	ISOTH
						0.105	1.0	*(1.1)*		Sample	Sample	ALP119
TH-230	**0.432**	=	0.27	0.28	0.117	pCi/sample	107%	*(3.7)*	7/19/06 10:14 a	1.0	0.08286	ISOTH
							1.0	*(3.)*		Sample	Sample	ALP119
TH-232	**0.0432**	ND	0.086	0.087	0.117	pCi/sample	107%	*0.37*	7/19/06 10:14 a	1.0	0.08286	ISOTH
							1.0	*1.*		Sample	Sample	ALP119
Batch: 6191216	**Work Order:** H8MX31AE			**Report DB ID:** 9H8MX310								
ALPHA	**8.25**	=	3.8	4.2	4.04	pCi/sample	100%	*(2.)*	7/24/06 07:41 p	1.0	0.02073	E900.0
						1.51	20.0	*(4.)*		Sample	Sample	GPC10E
Batch: 6191218	**Work Order:** H8MX31AF			**Report DB ID:** 9H8MX310								
BETA	**24.8**	=	3.8	5.1	5.23	pCi/sample	100%	*(4.7)*	7/24/06 07:37 p	1.0	0.08289	E900.0
						2.5	5.0	*(9.7)*		Sample	Sample	GPC32A
Batch: 6191220	**Work Order:** H8MX31AC			**Report DB ID:** 9H8MX310								

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-5
Client Sample ID: P-0672
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/12/2006 6:35:00 PM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.2460	ND	0.57	0.58	1.16	pCi/sample	95%	*-0.21*	7/22/06 11:42 a	1.0	0.2508	E903.1
						0.523	1.0	*-0.85*		Sample	Sample	ASC7RH
Batch: 6191221	**Work Order:** H8MX31AD			**Report DB ID:** 9H8MX310								
RA-228	-0.2740	ND	0.99	0.99	2.44	pCi/sample	82%	*-0.11*	7/25/06 08:06 a	1.0	0.2508	E904.0
						1.11	3.1	*-0.56*		Sample	Sample	GPC1C

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 7:10:00 PM

Lot-Sample No.: J6G030156-6 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0673 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MX61AG			**Report DB ID:** 9H8MX610								
U-234	0.00000	ND	0.0000	0.28	0.313	pCi/sample	83%	0.	7/18/06 11:44 p	1.0	0.06244	E908.0
							1.0	0.		Sample	Sample	ALP6
U-235	-0.0231	ND	0.046	0.046	0.553	pCi/sample	83%	-0.04	7/18/06 11:44 p	1.0	0.06244	E908.0
						0.12	1.0	-1.		Sample	Sample	ALP6
U-238	-0.0462	ND	0.065	0.066	0.653	pCi/sample	83%	-0.07	7/18/06 11:44 p	1.0	0.06244	E908.0
						0.17	1.0	-(1.4)		Sample	Sample	ALP6
Batch: 6191213	**Work Order:** H8MX61AA			**Report DB ID:** 9H8MX610								
TH-228	-0.0000374	ND	0.56	0.56	1.49	pCi/sample	29%	0.	7/19/06 10:14 a	1.0	0.08449	ISOTH
						0.528	1.0	0.		Sample	Sample	ALP120
TH-230	0.692	ND	0.70	0.72	0.922	pCi/sample	29%	0.75	7/19/06 10:14 a	1.0	0.08449	ISOTH
						0.253	1.0	(1.9)		Sample	Sample	ALP120
TH-232	0.00000	ND	0.0000	0.38	0.417	pCi/sample	29%	0.	7/19/06 10:14 a	1.0	0.08449	ISOTH
							1.0	0.		Sample	Sample	ALP120
Batch: 6191216	**Work Order:** H8MX61AE			**Report DB ID:** 9H8MX610								
ALPHA	3.16	ND	3.0	3.1	5.23	pCi/sample	100%	0.6	7/25/06 07:41 a	1.0	0.02085	E900.0
						2.12	20.0	(2.1)		Sample	Sample	GPC10A
Batch: 6191218	**Work Order:** H8MX61AF			**Report DB ID:** 9H8MX610								
BETA	25.3	=	3.7	5.1	5.13	pCi/sample	100%	(4.9)	7/24/06 07:37 p	1.0	0.08443	E900.0
						2.46	5.0	(9.9)		Sample	Sample	GPC32B
Batch: 6191220	**Work Order:** H8MX61AC			**Report DB ID:** 9H8MX610								

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
Lot-Sample No.: J6G030156-6
Client Sample ID: P-0673
Yerington Air Quality - Event #84

SDG: 32052
Report No. : 32826
COC No. :

Collection Date: 6/12/2006 7:10:00 PM
Received Date: 7/3/2006 10:00:00 AM
Matrix: FILTER AIR

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	-0.2920	ND	0.56	0.56	1.24	pCi/sample	83%	*-0.23*	7/22/06 11:40 a	1.0	0.24983	E903.1
						0.533	1.0	*-(1.)*		Sample	Sample	ASC8RD
Batch: 6191221	**Work Order:** H8MX61AD			**Report DB ID:** 9H8MX610								
RA-228	**1.56**	ND	1.2	1.3	2.73	pCi/sample	72%	*0.57*	7/25/06 08:06 a	1.0	0.24983	E904.0
						1.24	3.1	*(2.4)*		Sample	Sample	GPC1D

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052 **Collection Date:** 6/12/2006 2:35:00 PM

Lot-Sample No.: J6G030156-7 **Report No. :** 32826 **Received Date:** 7/3/2006 10:00:00 AM

Client Sample ID: P-0674 **COC No. :** **Matrix:** FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8MX81AG			**Report DB ID:** 9H8MX810								
U-234	**0.0794**	ND	0.20	0.20	0.475	pCi/sample	102%	*0.17*	7/18/06 11:44 p	1.0	0.06245	E908.0
						0.103	1.0	*0.78*		Sample	Sample	ALP7
U-235	**0.00000**	ND	0.0000	0.24	0.269	pCi/sample	102%	*0.*	7/18/06 11:44 p	1.0	0.06245	E908.0
							1.0	*0.*		Sample	Sample	ALP7
U-238	**-0.0199**	ND	0.040	0.040	0.475	pCi/sample	102%	*-0.04*	7/18/06 11:44 p	1.0	0.06245	E908.0
						0.103	1.0	*-1.*		Sample	Sample	ALP7
								Ratio U-234/238 = -4.0				
Batch: 6191213	**Work Order:** H8MX81AA			**Report DB ID:** 9H8MX810								
TH-228	**0.0542**	ND	0.25	0.25	0.583	pCi/sample	70%	*0.09*	7/19/06 08:35 p	1.0	0.08517	ISOTH
						0.218	1.0	*0.43*		Sample	Sample	ALP171
TH-230	**0.597**	=	0.36	0.38	0.311	pCi/sample	70%	*(1.9)*	7/19/06 08:35 p	1.0	0.08517	ISOTH
						0.0854	1.0	*(3.1)*		Sample	Sample	ALP171
TH-232	**0.0519**	ND	0.10	0.10	0.141	pCi/sample	70%	*0.37*	7/19/06 08:35 p	1.0	0.08517	ISOTH
							1.0	*1.*		Sample	Sample	ALP171
Batch: 6191216	**Work Order:** H8MX81AE			**Report DB ID:** 9H8MX810								
ALPHA	**4.77**	=	3.1	3.3	4.44	pCi/sample	100%	*(1.1)*	7/25/06 07:41 a	1.0	0.02113	E900.0
						1.74	20.0	*(2.9)*		Sample	Sample	GPC10B
Batch: 6191218	**Work Order:** H8MX81AF			**Report DB ID:** 9H8MX810								
BETA	**27.1**	=	3.7	6.1	4.9	pCi/sample	100%	*(5.5)*	7/24/06 07:37 p	1.0	0.08439	E900.0
						2.34	5.0	*(8.8)*		Sample	Sample	GPC32C
Batch: 6191220	**Work Order:** H8MX81AC			**Report DB ID:** 9H8MX810								

STL Richland
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V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM I

SAMPLE RESULTS

Date: 27-Jul-06

Lab Name: STL Richland
SDG: 32052
Collection Date: 6/12/2006 2:35:00 PM
Lot-Sample No.: J6G030156-7
Report No. : 32826
Received Date: 7/3/2006 10:00:00 AM
Client Sample ID: P-0674
COC No. :
Matrix: FILTER AIR

Yerington Air Quality - Event #84

Ordered by Client Sample ID, Batch No.

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Action Lev	Rpt Unit, Lc	Yield CRDL(RL)	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
RA-226	0.691	ND	0.56	0.58	0.86	pCi/sample	97%	*0.8*	7/22/06 11:41 a	1.0	0.25136	E903.1
						0.363	1.0	*(2.4)*		Sample	Sample	ASC9RC
Batch: 6191221	**Work Order:** H8MX81AD			**Report DB ID:** 9H8MX810								
RA-228	2.21	=	1.0	1.1	1.88	pCi/sample	88%	*(1.2)*	7/25/06 07:07 a	1.0	0.25136	E904.0
						0.813	3.1	*(4.2)*		Sample	Sample	GPC2A

Number of Results: 10

Comments:

STL Richland
rptSTLRchSample
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-211 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	Work Order: H8W1L1AA			Report DB ID: H8W1L1AB								
U-234	-0.00155	ND	0.0018	0.0018	0.0322	pCi/sample	101%	-0.05	7/18/06 11:46 p	1.0	1.0	E908.0
					0.00736	1.0		-(1.7)		Sample	Sample	ALP84
U-235	-0.00103	ND	0.0015	0.0015	0.0295	pCi/sample	101%	-0.04	7/18/06 11:46 p	1.0	1.0	E908.0
					0.00601	1.0		-(1.4)		Sample	Sample	ALP84
U-238	0.0129	ND	0.018	0.018	0.0175	pCi/sample	101%	0.74	7/18/06 11:46 p	1.0	1.0	E908.0
						1.0		(1.4)		Sample	Sample	ALP84

Ratio U-234/238 = -0.1

Number of Results: 3

Comments:

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-213 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191213	Work Order: H8W1N1AA			Report DB ID: H8W1N1AB								
TH-228	0.0142	ND	0.057	0.057	0.132	pCi/sample	27%	0.11	7/19/06 08:37 p	1.0	1.0	ISOTH
					0.0469	1.0		0.5		Sample	Sample	ALP120
TH-230	0.0205	ND	0.041	0.041	0.0819	pCi/sample	27%	0.25	7/19/06 08:37 p	1.0	1.0	ISOTH
					0.0225	1.0		0.99		Sample	Sample	ALP120
TH-232	0.00000	ND	0.0000	0.033	0.037	pCi/sample	27%	0.	7/19/06 08:37 p	1.0	1.0	ISOTH
						1.0		0.		Sample	Sample	ALP120

Number of Results: 3

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland

SDG: 32052

Lot-Sample No.: J6G100000-216

Report No. : 32826

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191216	Work Order:	H8W1R1AA		Report DB ID:	H8W1R1AB							
ALPHA	0.00531	ND	0.045	0.045	0.109	pCi/sample	100%	0.05	7/25/06 01:08 p	1.0	1.0	E900.0
					0.0443	20.0		0.23		Sample	Sample	GPC10A

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland

SDG: 32052

Lot-Sample No.: J6G100000-218

Report No. : 32826

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191218	Work Order:	H8W1T1AA		Report DB ID:	H8W1T1AB							
BETA	0.116	ND	0.19	0.19	0.395	pCi/sample	100%	0.29	7/25/06 08:03 a	1.0	1.0	E900.0
					0.189	5.0		(1.2)		Sample	Sample	GPC31B

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland

SDG: 32052

Lot-Sample No.: J6G100000-220

Report No. : 32826

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191220	Work Order:	H8W101AA		Report DB ID:	H8W101AB							
RA-226	0.00760	ND	0.091	0.091	0.184	pCi/sample	103%	0.04	7/22/06 12:11 p	1.0	1.0	E903.1
					0.0766	1.0		0.17		Sample	Sample	ASCKME

Number of Results: 1

Comments:

STL Richland

rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
ND Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mda or Total Uncert or not identified by gamma scan software.

FORM II

BLANK RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-221 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA, Lc	Rpt Unit, CRDL	Yield	Rst/MDC, Rst/TotUcert	Analysis, Prep Date	Total Sa Size	Aliquot Size	Analy Method, Primary Detector
Batch: 6191221	Work Order: H8W141AA			Report DB ID: H8W141AB								
RA-228	0.515	=	0.22	0.24	0.406	pCi/sample	92%	(1.3)	7/25/06 07:08 a	1.0	1.0	E904.0
					0.174	3.1		(4.3)		Sample	Sample	GPC4B

Number of Results: 1

Comments:

STL Richland
rptSTLRchBlank
V4.15.0 A97

MDC|MDA,Lc - Detection, Decision Level based on instrument background or blank, adjusted by the sample Efficiency, Yield, and Volume.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-211 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191211	**Work Order:** H8W1L1AC			**Report DB ID:** H8W1L1CS									
U-234	0.951	=	0.19	0.24	0.0514	pCi/sample	95.82%	0.970	0.0056	98%	7/18/06 11:46 p	1.0	E908.0
						Rec Limits:				0.0		Sample	ALP85
U-235	0.0447	=	0.041	0.041	0.0366	pCi/sample	95.82%	0.0443	0.00026	101%	7/18/06 11:46 p	1.0	E908.0
						Rec Limits:				0.0		Sample	ALP85
U-238	0.873	=	0.18	0.23	0.0246	pCi/sample	95.82%	1.02	0.0059	86%	7/18/06 11:46 p	1.0	E908.0
						Rec Limits:				-0.1		Sample	ALP85

Number of Results: 3

Comments:

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-213 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191213	Work Order: H8W1N1AC			Report DB ID: H8W1N1CS									
TH-230	2.02	=	0.23	0.45	0.0174	pCi/sample	55.08%	1.82	0.06	111%	7/19/06 08:37 p	1.0	ISOTH
						Rec Limits:		70.	130.	0.1		Sample	ALP116

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-216 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191216	Work Order: H8W1R1AC			Report DB ID: H8W1R1CS									
ALPHA	2.59	=	0.28	0.60	0.0939	pCi/sample	100.00%	2.38	0.075	109%	7/25/06 01:08 p	1.0	E900.0
							Rec Limits:			0.1		Sample	GPC10B

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland **SDG:** 32052

Lot-Sample No.: J6G100000-218 **Report No. :** 32826 **Matrix:** FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191218	**Work Order:** H8W1T1AC			**Report DB ID:** H8W1T1CS									
BETA	4.43	=	0.40	0.70	0.431	pCi/sample	100.00%	4.57	0.037	97%	7/25/06 08:03 a	1.0	E900.0
							Rec Limits:			0.0		Sample	GPC31C

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland

SDG: 32052

Lot-Sample No.: J6G100000-220

Report No. : 32826

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191220	Work Order: H8W101AC			Report DB ID: H8W101CS									
RA-226	1.15	=	0.21	0.31	0.121	pCi/sample	110.12%	1.39	0.021	83%	7/22/06 12:47 p	1.0	E903.1
							Rec Limits:	70.	130.	-0.2		Sample	ASCPMB

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

FORM II

LCS RESULTS

Date: 27-Jul-06

Lab Name: STL Richland

SDG: 32052

Lot-Sample No.: J6G100000-221

Report No. : 32826

Matrix: FILTER

Parameter	Result	Qual	Count Error (2 s)	Total Uncert(2 s)	MDC|MDA	Report Unit	Yield	Expected	Expected Uncert	Recovery, Bias	Analysis, Prep Date	Aliquot Size	Analy Method, Primary Detector
Batch: 6191221	Work Order: H8W141AC			Report DB ID: H8W141CS									
RA-228	3.90	=	0.44	0.63	0.374	pCi/sample	99.24%	5.05	0.021	77%	7/25/06 07:08 a	1.0	E904.0
							Rec Limits:	70.	130.	-0.2		Sample	GPC4C

Number of Results: 1

Comments:

STL Richland
rptSTLRchLcs
V4.15.0 A97

Bias - (Result/Expected)-1 as defined by ANSI N13.30.
= ERPIMS - Equal To, Analyte Detected

BROWN AND CALDWELL J6G030156 32052 due 8-1-06

CHAIN OF CUSTODY RECORD

COC No._____

☐ 3264 Goni Road / Suite 153
Carson City, NV 89706
775-883-4118 / FAX 775-883-5108

☐ 4425 W. Spring Mountain Road / Suite 225
Las Vegas, NV 89102
702-938-4080 / FAX 702-938-4082

☐ 201 East Washington Street / Suite 500
Phoenix, AZ 85004
602-567-4000 / FAX 602-567-4001

PROJECT NAME: [illegible]

PROJECT NUMBER: [illegible]

LABORATORY NAME & ADDRESS: [illegible]

SACRAMENTO LOT # G6F190128

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS.

LINE NO.	SAMPLE – I.D.	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESER-VATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC – REQ	TAT	SAMPLING METHOD	DEPTH (FT.) BEGIN ---- END	PID READING (ppm)
01	P-1668	[illegible]	[illegible]	JL	1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MXT			[illegible]		----	
02	P-1669		3:45		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MXV			[illegible]		----	
03	P-1670		4:45		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MXW			.27		----	
04	P-1671		5:50		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MXX			.27		----	
05	P-1672		6:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MX3			.41		----	
06	P-1673		7:10		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8MX6			.27		----	
07	P-1674		2:35		1	8x10 Filter	NONE	A	PM-10, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) HXMX8			.34		----	
08														----	
09														----	
10														----	

COLLECTED & RELEASED BY: [illegible]	DATE [illegible]	TIME	COOLER I.D.:		COMMENTS (see note on back):
RECEIVED BY: [illegible]	DATE 6/19/06	TIME 9:45	RELINQUISHED BY: Steve Valmores	DATE 6/30/06	TIME 1600
L. Welch	7-3-06	8:00A			
RECORD RETURNED BY:	DATE / /	TIME :			
COURIER: [illegible]			SHIPPING NUMBER: [illegible]		

RECEIVED IN GOOD CONDITION UNDER COC
JUN 19 2006
BY: [illegible]

DISTRIBUTION: WHITE – PROJECT FILE • CANARY – LAB RECEIPT • PINK – DATA MANAGEMENT • GOLDENROD – FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK.

BROWN AND CALDWELL

CHAIN OF CUSTODY RECORD

COC No._____

☐ 3264 Goni Road / Suite 153
Carson City, NV 89706
775-883-4118 / FAX 775-883-5108

☐ 4425 W. Spring Mountain Road / Suite 225
Las Vegas, NV 89102
702-938-4080 / FAX 702-938-4082

☐ 201 East Washington Street / Suite 500
Phoenix, AZ 85004
602-567-4000 / FAX 602-567-4001

PROJECT NAME: [illegible]
PROJECT NUMBER: [illegible]

LABORATORY NAME & ADDRESS: [illegible]

1/6 OF THE EXPOSED FILTER WAS UTILIZED FOR THE METALS ANALYSIS. SACRAMENTO LOT # GLF190128

LINE NO.	SAMPLE – I.D.	COLLECTION DATE	COLLECTION TIME	SAMPLER'S INITIALS	NUMBER OF CONTAINERS	CONTAINER SIZE AND TYPE	PRESER-VATIVE	MATRIX CODE	ANALYSES REQUESTED	FIELD FILTERED	QC – REQ (MS)	TIME TAT	SAMPLING METHOD	DEPTH (FT.) BEGIN ---- END	PID READING (ppm)
01	[illegible]	[illegible]	[illegible]	[illegible]	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M0K			[illegible]		----	
02	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M0Q			[illegible]		----	
03	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M0V			[illegible]		----	
04	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M05			[illegible]		----	
05	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M08			[illegible]		----	
06	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M1C			[illegible]		----	
07	[illegible]		[illegible]		1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M1E			[illegible]		----	
08	[illegible]	↓	[illegible]	↓	1	8x10 Filter	NONE	A	TSP, Gross Alpha/Beta, Th(228,230,232), Ra(226,228), U (234,235,238), Metals(Client List) H8M1G			[illegible]		----	
09														----	
10														----	

COLLECTED & RELEASED BY: [illegible]	DATE [illegible]	TIME [illegible]	COOLER I.D.:			COMMENTS (see note on back):
RECEIVED BY: [illegible]	DATE 6/19/06	TIME 14:45	RELINQUISHED BY: Steve Valmores	DATE 6/30/06	TIME 1600	RECEIVED IN GOOD CONDITION UNDER COC JUN 19 2006
S. Welch	7306	08:00				
RECORD RETURNED BY:	DATE / /	TIME :				
COURIER: [illegible]			SHIPPING NUMBER: [illegible]			

DISTRIBUTION: WHITE – PROJECT FILE • CANARY – LAB RECEIPT • PINK – DATA MANAGEMENT • GOLDENROD – FIELD

USE A BALLPOINT PEN, BLACK INK, AND PRESS FIRMLY. INSTRUCTIONS ARE ON THE BACK.

STL RICHLAND

59

SEVERN TRENT STL

Sample Check-in List

Date/Time Received: 7.3.06 08:00

Client: BRC SDG #: 32052 NA [ ] SAF #: _____ NA [ ]

Work Order Number: 06F030156 Chain of Custody # _____

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [ ] Yes [ ] No [ ]
2. Custody Seals dated and signed? NA [ ] Yes [ ] No [ ]
3. Chain of Custody record present? NA [ ] Yes [ ] No [ ]
4. Cooler temperature: _____ NA [ ] Yes [ ] No [ ]
5. Vermiculite/packing materials is NA [ ] Wet [ ] Dry [ ]
6. Number of samples in shipping container: 15
7. Sample holding times exceeded? NA [ ] Yes [ ] No [ ]
8. Samples have:
   _____ tape
   _____ custody seals
   _____ hazard labels
   ✓ appropriate samples labels
9. Samples are:
   ✓ in good condition
   _____ broken
   _____ leaking
   _____ have air bubbles (Only for samples requiring head space)
10. Sample pH taken? FLT NA [ ] pH<2 [ ] pH>2 [ ] adjusted pH [ ]
11. Sample Location, Sample Collector Listed? *
    *For documentation only. No corrective action needed. Yes [ ] No [ ]
12. Were any anomalies identified in sample receipt? Yes [ ] No [ ]
13. Description of anomalies (include sample numbers): _____

Sample Custodian: S. Welch Date: 7.3.06 0800

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person contacted _____

[ ] No action necessary; process as is.

Project Manager _____ Date _____

LS-023, 12/05, Rev. 6

THORIUM

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/20/2006 2:56:14 PM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191213; RTHISO Thiso by ALP

SDG, Matrix: 32052; FILTER

1.0 COC

	Yes	No	N/A
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		

2.0 QC Batch

	Yes	No	N/A
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		

3.0 QC & Samples

	Yes	No	N/A
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?		✓	

4.0 Raw Data

	Yes	No	N/A
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		

5.0 Other

	Yes	No	N/A
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

The MDA for Th-228 for sample H8MX6-1AA exceeded the CRDL due to a combination of background and lower than normal tracer

First Level Review Steven E. Wheland **Date** 7/20/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6191213

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?		/	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?			/
C. Other 1. Are all Nonconformances included and noted?	/		
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response: See NCM

Second Level Review: Sherryl A Adam Date: 7-21-09

7/20/2006 2:53:00 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
32052	**9H8M0510**			**J6G03015611**	000497	FILTER	7/3/2006 10:00:00		6/13/2006 2:00:00 PM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**5.7793E-02**	5.779E-02	5.801E-02	2.311E-01	PCI/SA	1.093	1.0E+0	8.315E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.9555E-01**	1.045E-01	1.076E-01	1.001E-01	PCI/SA	1.093	1.0E+0	8.315E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**9.236E-02**	6.66E-02	6.709E-02	2.216E-01	PCI/SA	1.093	1.0E+0	8.315E-2
U-234	7YSR	0		7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA	0.939	1.0E+0	6.247E-2
U-235	7YSR	0		7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA	0.939	1.0E+0	6.247E-2
U-238	7YSR	0		7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA	0.939	1.0E+0	6.247E-2
32052	**9H8M0810**			**J6G03015612**	000498	FILTER	7/3/2006 10:00:00		6/13/2006 12:00:00 PM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.7058E-01**	9.848E-02	9.962E-02	3.186E-01	PCI/SA	1.035	1.0E+0	8.514E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**4.1797E-01**	1.272E-01	1.324E-01	2.18E-01	PCI/SA	1.035	1.0E+0	8.514E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**6.0639E-07**	4.451E-02	4.451E-02	2.675E-01	PCI/SA	1.035	1.0E+0	8.514E-2
U-234	7YSR	0		7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA	1.037	1.0E+0	6.198E-2
U-235	7YSR	0		7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA	1.037	1.0E+0	6.198E-2
U-238	7YSR	0		7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA	1.037	1.0E+0	6.198E-2
32052	**9H8M0K10**			**J6G0301568**	000494	FILTER	7/3/2006 10:00:00		6/14/2006 1:00:00 AM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.8768E-06**	7.954E-02	7.954E-02	4.036E-01	PCI/SA	1.022	1.0E+0	8.371E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**4.1367E-01**	1.259E-01	1.311E-01	2.158E-01	PCI/SA	1.022	1.0E+0	8.371E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**6.0016E-07**	4.406E-02	4.406E-02	2.648E-01	PCI/SA	1.022	1.0E+0	8.371E-2
U-234	7YSR	0		7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA	1.05	1.0E+0	6.234E-2
U-235	7YSR	0		7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA	1.05	1.0E+0	6.234E-2
U-238	7YSR	0		7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA	1.05	1.0E+0	6.234E-2
32052	**9H8M0Q10**			**J6G0301569**	000495	FILTER	7/3/2006 10:00:00		6/14/2006 1:00:00 AM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.6142E-01**	9.508E-02	9.619E-02	2.766E-01	PCI/SA	0.961	1.0E+0	8.361E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.6546E-01**	1.084E-01	1.11E-01	1.199E-01	PCI/SA	0.961	1.0E+0	8.361E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**4.4243E-02**	4.424E-02	4.442E-02	1.199E-01	PCI/SA	0.961	1.0E+0	8.361E-2
U-234	7YSR	0		7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA	0.987	1.0E+0	6.258E-2
U-235	7YSR	0		7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	0.987	1.0E+0	6.258E-2
U-238	7YSR	0		7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA	0.987	1.0E+0	6.258E-2
32052	**9H8M0V10**			**J6G03015610**	000496	FILTER	7/3/2006 10:00:00		6/13/2006 4:00:00 AM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**9.0006E-02**	6.364E-02	6.415E-02	1.22E-01	PCI/SA	1.046	1.0E+0	8.426E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**1.7254E-01**	8.627E-02	8.764E-02	1.169E-01	PCI/SA	1.046	1.0E+0	8.426E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**4.3134E-02**	4.313E-02	4.331E-02	1.169E-01	PCI/SA	1.046	1.0E+0	8.426E-2
U-234	7YSR	0		7/18/2006 11:45:19 PM	**-1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	6.247E-2
U-235	7YSR	0		7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	6.247E-2
U-238	7YSR	0		7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	6.247E-2
32052	**9H8M1C10**			**J6G03015613**	000499	FILTER	7/3/2006 10:00:00		6/13/2006 1:00:00 PM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**6.4329E-02**	6.433E-02	6.458E-02	2.572E-01	PCI/SA	1.001	1.0E+0	8.393E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.4672E-01**	1.007E-01	1.031E-01	1.114E-01	PCI/SA	1.001	1.0E+0	8.393E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**0.0E+00**	0.0E+00	5.036E-02	1.114E-01	PCI/SA	1.001	1.0E+0	8.393E-2
U-234	7YSR	0		7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA	0.936	1.0E+0	6.152E-2
U-235	7YSR	0		7/18/2006 11:45:58 PM	**-2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA	0.936	1.0E+0	6.152E-2
U-238	7YSR	0		7/18/2006 11:45:58 PM	**-5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA	0.936	1.0E+0	6.152E-2
32052	**9H8M1E10**			**J6G03015614**	000500	FILTER	7/3/2006 10:00:00		6/13/2006 9:00:00 AM			
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.8471E-02**	4.13E-02	4.133E-02	2.216E-01	PCI/SA	0.961	1.0E+0	8.455E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.3122E-02**	5.312E-02	5.333E-02	2.124E-01	PCI/SA	0.961	1.0E+0	8.455E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**-3.5414E-02**	2.504E-02	2.523E-02	2.607E-01	PCI/SA	0.961	1.0E+0	8.455E-2
U-234	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	6.256E-2
U-235	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	6.256E-2
U-238	7YSR	0		7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA	0.973	1.0E+0	6.256E-2
32052	**9H8M1G10**			**J6G03015615**	000501	FILTER	7/3/2006 10:00:00		6/13/2006			
TH-228	9NS1	0		7/19/2006 8:36:46 PM	**4.7234E-02**	7.468E-02	7.48E-02	3.476E-01	PCI/SA	0.93	1.0E+0	8.504E-2
TH-230	9NS1	0		7/19/2006 8:36:46 PM	**4.9791E-01**	1.501E-01	1.568E-01	1.227E-01	PCI/SA	0.93	1.0E+0	8.504E-2

6191213, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
TH-232	9NS1	0		7/19/2006 8:36:46 PM	**0.0E+00**	0.0E+00	5.544E-02	1.227E-01	PCI/SA	0.93	1.0E+0	8.504E-2	
U-234	7YSR	0		7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA	1.01	1.0E+0	6.18E-2	
U-235	7YSR	0		7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA	1.01	1.0E+0	6.18E-2	
U-238	7YSR	0		7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA	1.01	1.0E+0	6.18E-2	
32052	**9H8MX310**			**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00	6/12/2006 6:35:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:41	**9.0145E-02**	8.433E-02	8.471E-02	3.318E-01	PCI/SA	1.069	1.0E+0	8.286E-2	
TH-230	9NS1	0		7/19/2006 10:14:41	**4.3207E-01**	1.366E-01	1.42E-01	1.171E-01	PCI/SA	1.069	1.0E+0	8.286E-2	
TH-232	9NS1	0		7/19/2006 10:14:41	**4.3207E-02**	4.321E-02	4.338E-02	1.171E-01	PCI/SA	1.069	1.0E+0	8.286E-2	
U-234	7YSR	0		7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA	0.965	1.0E+0	6.266E-2	
U-235	7YSR	0		7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA	0.965	1.0E+0	6.266E-2	
U-238	7YSR	0		7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA	0.965	1.0E+0	6.266E-2	
32052	**9H8MX610**			**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00	6/12/2006 7:10:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:43	**-3.742E-05**	2.778E-01	2.778E-01	1.489E+00	PCI/SA	0.288	1.0E+0	8.449E-2	
TH-230	9NS1	0		7/19/2006 10:14:43	**6.9177E-01**	3.522E-01	3.611E-01	9.221E-01	PCI/SA	0.288	1.0E+0	8.449E-2	
TH-232	9NS1	0		7/19/2006 10:14:43	**0.0E+00**	0.0E+00	1.883E-01	4.166E-01	PCI/SA	0.288	1.0E+0	8.449E-2	
U-234	7YSR	0		7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA	0.83	1.0E+0	6.244E-2	
U-235	7YSR	0		7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA	0.83	1.0E+0	6.244E-2	
U-238	7YSR	0		7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA	0.83	1.0E+0	6.244E-2	
32052	**9H8MX810**			**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00	6/12/2006 2:35:00 PM					
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**5.4185E-02**	1.271E-01	1.272E-01	5.832E-01	PCI/SA	0.701	1.0E+0	8.517E-2	
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.969E-01**	1.817E-01	1.899E-01	3.113E-01	PCI/SA	0.701	1.0E+0	8.517E-2	
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**5.1904E-02**	5.19E-02	5.213E-02	1.407E-01	PCI/SA	0.701	1.0E+0	8.517E-2	
U-234	7YSR	0		7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA	1.018	1.0E+0	6.245E-2	
U-235	7YSR	0		7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA	1.018	1.0E+0	6.245E-2	
U-238	7YSR	0		7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA	1.018	1.0E+0	6.245E-2	
32052	**9H8MXT10**			**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:05	**2.1989E-02**	4.917E-02	4.921E-02	2.638E-01	PCI/SA	0.975	1.0E+0	8.395E-2	
TH-230	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA	0.975	1.0E+0	8.395E-2	
TH-232	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA	0.975	1.0E+0	8.395E-2	
U-234	7YSR	0		7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA	1.043	1.0E+0	6.244E-2	
U-235	7YSR	0		7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA	1.043	1.0E+0	6.244E-2	
U-238	7YSR	0		7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA	1.043	1.0E+0	6.244E-2	
32052	**9H8MXV10**			**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00	6/12/2006 3:45:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:05	**1.7101E-02**	3.824E-02	3.827E-02	2.051E-01	PCI/SA	1.077	1.0E+0	8.779E-2	
TH-230	9NS1	0		7/19/2006 10:14:05	**2.7863E-01**	9.97E-02	1.026E-01	1.966E-01	PCI/SA	1.077	1.0E+0	8.779E-2	
TH-232	9NS1	0		7/19/2006 10:14:05	**-3.2779E-02**	2.318E-02	2.335E-02	2.413E-01	PCI/SA	1.077	1.0E+0	8.779E-2	
U-234	7YSR	0		7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA	1.004	1.0E+0	6.27E-2	
U-235	7YSR	0		7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA	1.004	1.0E+0	6.27E-2	
U-238	7YSR	0		7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA	1.004	1.0E+0	6.27E-2	
32052	**9H8MXW10**			**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:26	**-9.5285E-02**	4.261E-02	4.343E-02	3.835E-01	PCI/SA	0.899	1.0E+0	8.344E-2	
TH-230	9NS1	0		7/19/2006 10:14:26	**4.9309E-01**	1.379E-01	1.446E-01	2.191E-01	PCI/SA	0.899	1.0E+0	8.344E-2	
TH-232	9NS1	0		7/19/2006 10:14:26	**3.6525E-02**	3.653E-02	3.667E-02	9.898E-02	PCI/SA	0.899	1.0E+0	8.344E-2	
U-234	7YSR	0		7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA	0.853	1.0E+0	6.157E-2	
U-235	7YSR	0		7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA	0.853	1.0E+0	6.157E-2	
U-238	7YSR	0		7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA	0.853	1.0E+0	6.157E-2	
32052	**9H8MXX10**			**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM					
TH-228	9NS1	0		7/19/2006 10:14:33	**1.1341E-01**	9.889E-02	9.941E-02	3.814E-01	PCI/SA	0.957	1.0E+0	8.477E-2	
TH-230	9NS1	0		7/19/2006 10:14:33	**4.3487E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA	0.957	1.0E+0	8.477E-2	
TH-232	9NS1	0		7/19/2006 10:14:33	**0.0E+00**	0.0E+00	5.326E-02	1.179E-01	PCI/SA	0.957	1.0E+0	8.477E-2	
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA	0.898	1.0E+0	6.278E-2	
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA	0.898	1.0E+0	6.278E-2	
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA	0.898	1.0E+0	6.278E-2	
32052	**H8W1N1AB**			**J6G100000213**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					

6191213, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006

SDG or Batch Isotope	Rpt Db Id Method	RTst	Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot uncert	Mda	Sample Date Units	Expected	Yield	Volumes	
TH-228	9NS1	0	B	7/19/2006 8:37:02 PM	**1.4245E-02**	2.85E-02	2.855E-02	1.323E-01	PCI/SA		0.274	1.0E+0	1.0E+0
TH-230	9NS1	0	B	7/19/2006 8:37:02 PM	**2.0475E-02**	2.048E-02	2.061E-02	8.188E-02	PCI/SA		0.274	1.0E+0	1.0E+0
TH-232	9NS1	0	B	7/19/2006 8:37:02 PM	**0.0E+00**	0.0E+00	1.672E-02	3.699E-02	PCI/SA		0.274	1.0E+0	1.0E+0
32052	**H8W1N1CS**			**J6G100000213**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00		6/12/2006 2:25:00 PM				
TH-230	9NS1	0	S	7/19/2006 8:37:17 PM	**2.0244E+00**	1.139E-01	2.25E-01	1.736E-02	PCI/SA	1.8199E+00	0.551	1.0E+0	1.0E+0

6191213, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 49 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AA=> , sdt:6/13/2006

7/20/2006 2:53:03 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/20/2005, 7/25/2006, Batch: '6191213', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191213						
AC		**CalcC**	**HansenM**	7/17/2006 9:38:15		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/17/2006 9:38:15 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/17/2006 9:38:43 AM	RICH-RC-5016 REVISION 5
SC			FABREM	Sep2C	7/18/2006 6:53:52 PM	RICH-RC-5039 REV 6
SC			DAWKINSO	InCnt1	7/18/2006 8:18:40 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/20/2006 8:10:43 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/17/2006 9:38:43		
AC			**FABREM**	7/18/2006 6:53:52 PM		
AC			**DAWKINSO**	7/18/2006 8:18:40 PM		
AC			**BlackCL**	7/20/2006 8:10:43		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 5

ICOCFractions v4.8.18

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08363**
NCM Initiated By: Steven Wheland
Date Opened: 07/20/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: ThIso by ALP
Lot #'s (Sample #'s): J6G030156 (6),
QC Batches: 6191213

Nonconformance: MDA not met
Subcategory: Low tracer yield

Problem Description / Root Cause

Name	Date	Description
Steven Wheland	07/20/2006	The MDA of this sample for Th-228 exceeded the CRDL (1.49 vs 1.0) due to a combination of background and lower than normal tracer yields. The MDA's for the other two analytes were acceptable as were the rest of the batch.

Corrective Action

Name	Date	Corrective Action
Steven Wheland	07/20/2006	report data

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

STL RICHLAND

7/14/2006 11:26:28 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N Thiso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191213 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech: 7-18-06 mf

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8MXT-1-AA J6G030156-1-SAMP 06/12/2006 14:25	0.833g	502.16g	50.61g,in	0.084g	THTF0698 07/14/06,pd 10/04/04,r	500				
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
2 H8MXV-1-AA J6G030156-2-SAMP 06/12/2006 15:45	0.833g	500.50g	52.75g,in	0.0878g	THTF0699 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
3 H8MXW-1-AA J6G030156-3-SAMP 06/12/2006 16:45	0.833g	511.31g	51.22g,in	0.0834g	THTF0700 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
4 H8MXX-1-AA J6G030156-4-SAMP 06/12/2006 17:50	0.833g	500.07g	50.89g,in	0.0848g	THTF0701 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
5 H8MX3-1-AA J6G030156-5-SAMP 06/12/2006 18:35	0.833g	503.86g	50.12g,in	0.0829g	THTF0702 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
6 H8MX6-1-AA J6G030156-6-SAMP 06/12/2006 19:10	0.833g	504.67g	51.19g,in	0.0845g	THTF0703 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:
7 H8MX8-1-AA J6G030156-7-SAMP 06/12/2006 14:35	0.833g	501.56g	51.28g,in	0.0852g	THTF0704 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER	#Containers: 1					Scr:	Alpha:	Beta:

STL RICHLAND

7/14/2006 11:26:29 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N ThIso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191213 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
172 8 H8M0K-1-AA J6G030156-8-SAMP 06/12/2006 00:49	0.833g	501.61g	50.41g,in	0.0837g	THTF0705 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
173 9 H8M0Q-1-AA J6G030156-9-SAMP 06/12/2006 00:49	0.833g	500.21g	50.21g,in	0.0836g	THTF0706 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
174 10 H8M0V-1-AA J6G030156-10-SAMP 06/12/2006 00:28	0.833g	501.62g	50.74g,in	0.0843g	THTF0707 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
175 11 H8M05-1-AA J6G030156-11-SAMP 06/12/2006 00:38	0.833g	502.43g	50.15g,in	0.0831g	THTF0708 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
176 12 H8M08-1-AA J6G030156-12-SAMP 06/12/2006 00:36	0.833g	504.38g	51.55g,in	0.0851g	THTF0709 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
177 13 H8M1C-1-AA J6G030156-13-SAMP 06/12/2006 00:37	0.833g	507.93g	51.18g,in	0.0839g	THTF0710 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
178 14 H8M1E-1-AA J6G030156-14-SAMP 06/12/2006 00:33	0.833g	500.10g	50.76g,in	0.0845g	THTF0711 07/14/06,pd 10/04/04,r					
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

70

STL RICHLAND

7/14/2006 11:26:30 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

9N Thiso PrpRc5016, SepRC5084(5003)
S1 Thorium-228,230,232 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191213 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H8M1G-1-AA J6G030156-15-SAMP 06/12/2006 00:24	0.833g	507.33g	51.79g,in	0.085g	THTF0712 07/14/06,pd 10/04/04,r					
AmtRec: FILTER	#Containers: 1	Scr:	Alpha:	Beta:						
16H8W1N-1-AA-B J6G100000-213-BLK 06/12/2006 14:25			1.00sa,in	1.00sa	THTF0713 07/14/06,pd 10/04/04,r					
AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:						
17H8W1N-1-AC-C J6G100000-213-LCS 06/12/2006 14:25			1.00sa,in	1.00sa	THSO0083 06/15/06,pd 10/04/04,r					
AmtRec:	#Containers: 1	Scr:	Alpha:	Beta:						

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H8MXT1AA-SAMP Constituent List:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H8W1N1AA-BLK:

Th-228	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-230	RDL:1	pCi/sam	LCL:	UCL:	RPD:
Th-232	RDL:1	pCi/sam	LCL:	UCL:	RPD:	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H8W1N1AC-LCS:

Th-230	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	Th-234	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20

H8MXT1AA-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W1N1AA-BLK:

71

Batch Nbr: 6191213 Alpha Spec, ThIso by ALP , Results 7/20/2006 8:09:47 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
ThIso by ALP				Richland Standard AlpIso Wo Blk Subt.										
Calc	S1	FILTER	H8MXT1AA	TH-228	2.20E-02	(4.92E-02)	U4	PCI/SA	R	7.23E-02	2.64E-01		98%	
Calc	S1	FILTER	H8MXT1AA	TH-230	1.26E-01	(7.39E-02)		PCI/SA	R		1.14E-01		98%	
Calc	S1	FILTER	H8MXT1AA	TH-232	1.26E-01	(7.39E-02)		PCI/SA	R		1.14E-01		98%	
Calc	S1	FILTER	H8MXV1AA	TH-228	1.71E-02	(3.83E-02)	U4	PCI/SA	R	5.63E-02	2.05E-01		108%	
Calc	S1	FILTER	H8MXV1AA	TH-230	2.79E-01	(1.03E-01)		PCI/SA	R	5.39E-02	1.97E-01		108%	
Calc	S1	FILTER	H8MXV1AA	TH-232	-3.28E-02	(2.34E-02)	U4	PCI/SA	R	7.63E-02	2.41E-01		108%	
Calc	S1	FILTER	H8MXW1AA	TH-228	-9.53E-02	(4.34E-02)	U4	PCI/SA	R	1.40E-01	3.83E-01		90%	
Calc	S1	FILTER	H8MXW1AA	TH-230	4.93E-01	(1.45E-01)		PCI/SA	R	6.01E-02	2.19E-01		90%	
Calc	S1	FILTER	H8MXW1AA	TH-232	3.65E-02	(3.67E-02)	U4	PCI/SA	R		9.90E-02		90%	
Calc	S1	FILTER	H8MXX1AA	TH-228	1.13E-01	(9.94E-02)	U4	PCI/SA	R	1.29E-01	3.81E-01		96%	
Calc	S1	FILTER	H8MXX1AA	TH-230	4.35E-02	(4.37E-02)	U4	PCI/SA	R		1.18E-01		96%	
Calc	S1	FILTER	H8MXX1AA	TH-232	0.00E+00	(5.33E-02)	U4	PCI/SA	R		1.18E-01		96%	
Calc	S1	FILTER	H8MX31AA	TH-228	9.01E-02	(8.47E-02)	U4	PCI/SA	R	1.05E-01	3.32E-01		107%	
Calc	S1	FILTER	H8MX31AA	TH-230	4.32E-01	(1.42E-01)		PCI/SA	R		1.17E-01		107%	
Calc	S1	FILTER	H8MX31AA	TH-232	4.32E-02	(4.34E-02)	U4	PCI/SA	R		1.17E-01		107%	
Calc	S1	FILTER	H8MX61AA	TH-228	-3.74E-05	(2.78E-01)	U4	PCI/SA	R	5.28E-01	1.49E+00		29%	>CRK
Calc	S1	FILTER	H8MX61AA	TH-230	6.92E-01	(3.61E-01)		PCI/SA	R	2.53E-01	9.22E-01		29%	
Calc	S1	FILTER	H8MX61AA	TH-232	0.00E+00	(1.88E-01)	U4	PCI/SA	R		4.17E-01		29%	
Calc	S1	FILTER	H8MX81AA	TH-228	5.42E-02	(1.27E-01)	U4	PCI/SA	R	2.18E-01	5.83E-01		70%	
Calc	S1	FILTER	H8MX81AA	TH-230	5.97E-01	(1.90E-01)		PCI/SA	R	8.54E-02	3.11E-01		70%	
Calc	S1	FILTER	H8MX81AA	TH-232	5.19E-02	(5.21E-02)	U4	PCI/SA	R		1.41E-01		70%	
Calc	S1	FILTER	H8M0K1AA	TH-228	1.88E-06	(7.95E-02)	U4	PCI/SA	R	1.51E-01	4.04E-01		102%	
Calc	S1	FILTER	H8M0K1AA	TH-230	4.14E-01	(1.31E-01)		PCI/SA	R	5.92E-02	2.16E-01		102%	
Calc	S1	FILTER	H8M0K1AA	TH-232	6.00E-07	(4.41E-02)	U4	PCI/SA	R	8.37E-02	2.65E-01		102%	
Calc	S1	FILTER	H8M0Q1AA	TH-228	1.61E-01	(9.62E-02)		PCI/SA	R	7.59E-02	2.77E-01		96%	
Calc	S1	FILTER	H8M0Q1AA	TH-230	2.65E-01	(1.11E-01)		PCI/SA	R		1.20E-01		96%	
Calc	S1	FILTER	H8M0Q1AA	TH-232	4.42E-02	(4.44E-02)	U4	PCI/SA	R		1.20E-01		96%	
Calc	S1	FILTER	H8M0V1AA	TH-228	9.00E-02	(6.42E-02)	U4	PCI/SA	R		1.22E-01		105%	
Calc	S1	FILTER	H8M0V1AA	TH-230	1.73E-01	(8.76E-02)		PCI/SA	R		1.17E-01		105%	
Calc	S1	FILTER	H8M0V1AA	TH-232	4.31E-02	(4.33E-02)	U4	PCI/SA	R		1.17E-01		105%	
Calc	S1	FILTER	H8M051AA	TH-228	5.78E-02	(5.80E-02)	U4	PCI/SA	R	6.34E-02	2.31E-01		109%	
Calc	S1	FILTER	H8M051AA	TH-230	2.96E-01	(1.08E-01)		PCI/SA	R		1.00E-01		109%	
Calc	S1	FILTER	H8M051AA	TH-232	9.24E-02	(6.71E-02)	U4	PCI/SA	R	6.08E-02	2.22E-01		109%	
Calc	S1	FILTER	H8M081AA	TH-228	1.71E-01	(9.96E-02)		PCI/SA	R	1.08E-01	3.19E-01		103%	
Calc	S1	FILTER	H8M081AA	TH-230	4.18E-01	(1.32E-01)		PCI/SA	R	5.98E-02	2.18E-01		103%	
Calc	S1	FILTER	H8M081AA	TH-232	6.06E-07	(4.45E-02)	U4	PCI/SA	R	8.46E-02	2.67E-01		103%	
Calc	S1	FILTER	H8M1C1AA	TH-228	6.43E-02	(6.46E-02)	U4	PCI/SA	R	7.05E-02	2.57E-01		100%	

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:51
RADCALC v4.8.18
STL Richland

Batch Nbr: 6191213

Alpha Spec, Thlso by ALP , Results
Summary Report

7/20/2006 8:09:47 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	S1	FILTER	**H8M1C1AA**	TH-230	**2.47E-01**	**(1.03E-01)**		PCI/SA	R		1.11E-01		100%	
Calc	S1	FILTER	**H8M1C1AA**	TH-232	**0.00E+00**	**(5.04E-02)**	**U4**	PCI/SA	R		1.11E-01		100%	
Calc	S1	FILTER	**H8M1E1AA**	TH-228	**1.85E-02**	**(4.13E-02)**	**U4**	PCI/SA	R	6.08E-02	2.22E-01		96%	
Calc	S1	FILTER	**H8M1E1AA**	TH-230	**5.31E-02**	**(5.33E-02)**	**U4**	PCI/SA	R	5.83E-02	2.12E-01		96%	
Calc	S1	FILTER	**H8M1E1AA**	TH-232	**-3.54E-02**	**(2.52E-02)**	**U4**	PCI/SA	R	8.24E-02	2.61E-01		96%	
Calc	S1	FILTER	**H8M1G1AA**	TH-228	**4.72E-02**	**(7.48E-02)**	**U4**	PCI/SA	R	1.10E-01	3.48E-01		93%	
Calc	S1	FILTER	**H8M1G1AA**	TH-230	**4.98E-01**	**(1.57E-01)**		PCI/SA	R		1.23E-01		93%	
Calc	S1	FILTER	**H8M1G1AA**	TH-232	**0.00E+00**	**(5.54E-02)**	**U4**	PCI/SA	R		1.23E-01		93%	
Calc	S1	FILTER	**H8W1N1AA**	TH-228	**1.42E-02**	**(2.85E-02)**	**U4**	PCI/SA	R	4.69E-02	1.32E-01	**B**	27%	
Calc	S1	FILTER	**H8W1N1AA**	TH-230	**2.05E-02**	**(2.06E-02)**	**U4**	PCI/SA	R	2.25E-02	8.19E-02	**B**	27%	
Calc	S1	FILTER	**H8W1N1AA**	TH-232	**0.00E+00**	**(1.67E-02)**	**U4**	PCI/SA	R		3.70E-02	**B**	27%	
Calc	S1	FILTER	**H8W1N1AC**	TH-230	**2.02E+00**	**(2.25E-01)**		PCI/SA	R		1.74E-02	**S**	55%	111%

OK
GEL
7/20/06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:66
RADCALC v4.8.18
STL Richland

Batch Nbr: 6191213

Alpha Spec, ThIso by ALP , Calculated Results

7/20/2006 8:09:48 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MXT1AA**	**PCI/SA**		06/12/06 14:25	07/19/06 10:14			1	1.00 SA	
536403,P-0668					,J6G030156-1 v4.8.18		FILTER					THTF0698 Alq		0.083954 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	1	1	ALP177	ED	N	N	2.6130E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0372E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.911344		
1	07/19/06 06:04	TH-229	520	0	ALP177	ED	Y	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)						(0.000E+00)	11.911344		
2	07/19/06 06:04	TH-230	3	0	ALP177	ED	N	N	2.6130E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.911344		
3	07/19/06 06:04	TH-232	3	0	ALP177	ED	N	N	2.6130E-01		N	98%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.911344		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.021989**	**U4**	1.00108E-03	0.003951	0.003951	1.00 SA	98%		0.263773		
				(0.049207)		(2.2384E-03)	(0.008839)	(0.008839)	(0.027064)			0.072341		
	07/20/06	TH-229	R	**21.377783**		1.04111E+00	3.98433	3.98433	1.00 SA	98%				
				(1.663563)		(4.5656E-02)	(0.211698)	(0.211698)	(0.027064)					
	07/20/06	TH-230	R	**0.126436**		6.00641E-03	0.023565	0.023565	1.00 SA	98%		0.114214		
				(0.073873)		(3.4678E-03)	(0.013703)	(0.013703)	(0.027064)					
	07/20/06	TH-232	R	**0.126436**		6.00641E-03	0.023565	0.023565	1.00 SA	98%		0.114214		
				(0.073873)		(3.4678E-03)	(0.013703)	(0.013703)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MXV1AA**	**PCI/SA**		06/12/06 15:45	07/19/06 10:14			1	1.00 SA	
536403,P-0669					,J6G030156-2 v4.8.18		FILTER					THTF0699 Alq		0.087794 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	1	1	ALP178	ED	N	N	3.1338E-01		N	108%	N		1.0000E+00	4.5045E-01	1.0371E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.390338		
1	07/19/06 06:04	TH-229	686	1	ALP178	ED	Y	N	3.1338E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)						(0.000E+00)	11.390338		
2	07/19/06 06:04	TH-230	9	1	ALP178	ED	N	N	3.1338E-01		N	108%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.390338		
3	07/19/06 06:04	TH-232	0	2	ALP178	ED	N	N	3.1338E-01		N	108%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.390338		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6191213 — Alpha Spec, Thlso by ALP , Calculated Results — 7/20/2006 8:09:48 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.017101**	U4	1.00108E-03	0.003214	0.003214	1.00 SA	108%		0.205145		
				(0.038268)		(2.2384E-03)	(0.007189)	(0.007189)	(0.027064)			0.056262		
	07/20/06	TH-229	R	**22.470408**		1.37246E+00	4.379533	4.379533	1.00 SA	108%				
				(1.680456)		(5.2449E-02)	(0.212774)	(0.212774)	(0.027064)					
	07/20/06	TH-230	R	**0.278627**		1.70182E-02	0.054305	0.054305	1.00 SA	108%		0.196613		
				(0.102605)		(6.0893E-03)	(0.019758)	(0.019758)	(0.027064)			0.053922		
	07/20/06	TH-232	R	**-0.032779**	U4	-2.00210E-03	-0.006389	-0.006389	1.00 SA	108%		0.241257		
				(0.023353)		(1.4157E-03)	(0.004537)	(0.004537)	(0.027064)			0.076257		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MXW1AA**	**PCI/SA**		06/12/06 16:45	07/19/06 10:14			1	1.00 SA	
536403,P-0670					,J6G030156-3 v4.8.18		FILTER					THTF0700 Alq		0.083445 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	0	5	ALP114	ED	N	N	3.2873E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0371E+00	
			500.0666666	1000			Y		(9.862E-03)			5%			(0.000E+00)	11.983942		
1	07/19/06 06:04	TH-229	601	1	ALP114	ED	Y	N	3.2873E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000			Y		(9.862E-03)						(0.000E+00)	11.983942		
2	07/19/06 06:04	TH-230	14	1	ALP114	ED	N	N	3.2873E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000			Y		(9.862E-03)			5%			(0.000E+00)	11.983942		
3	07/19/06 06:04	TH-232	1	0	ALP114	ED	N	N	3.2873E-01		N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0666666	1000			Y		(9.862E-03)			5%			(0.000E+00)	11.983942		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**-0.095285**	U4	-5.00000E-03	-0.01702	-0.01702	1.00 SA	90%		0.38348		
				(0.043434)		(2.2361E-03)	(0.007698)	(0.007698)	(0.027064)			0.140186		
	07/20/06	TH-229	R	**19.719258**		1.20084E+00	3.652955	3.652955	1.00 SA	90%				
				(1.501751)		(4.9034E-02)	(0.185092)	(0.185092)	(0.027064)					
	07/20/06	TH-230	R	**0.493089**		2.69963E-02	0.091344	0.091344	1.00 SA	90%		0.219088		
				(0.144585)		(7.5488E-03)	(0.026276)	(0.026276)	(0.027064)			0.060088		
	07/20/06	TH-232	R	**0.036525**	U4	1.99973E-03	0.006766	0.006766	1.00 SA	90%		0.098984		
				(0.036667)		(1.9997E-03)	(0.006782)	(0.006782)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MXX1AA**	**PCI/SA**		06/12/06 17:50	07/19/06 10:14			1	1.00 SA	
536403,P-0671					,J6G030156-4 v4.8.18		FILTER					THTF0701 Alq		0.084771 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	4	3	ALP116	ED	N	N	2.5523E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0370E+00	
			500.1333333	1000.0833			Y		(7.657E-03)			6%			(0.000E+00)	11.796505		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 Alpha Spec, ThIso by ALP , Calculated Results 7/20/2006 8:09:48 AM

1	07/19/06 06:04	TH-229	497	0	ALP116	ED	Y	N	2.5523E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.1333333	1000.0833			Y		(7.657E-03)				(0.000E+00)	11.796505	
2	07/19/06 06:04	TH-230	1	0	ALP116	ED	N	N	2.5523E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.1333333	1000.0833			Y		(7.657E-03)		6%		(0.000E+00)	11.796505	
3	07/19/06 06:04	TH-232	0	0	ALP116	ED	N	N	2.5523E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			500.1333333	1000.0833			Y		(7.657E-03)		6%		(0.000E+00)	11.796505	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.113414**	U4	4.99812E-03	0.020581	0.020581	1.00 SA	96%		0.381366		
				(0.099413)		(4.3579E-03)	(0.018002)	(0.018002)	(0.027064)			0.129283		
	07/20/06	TH-229	R	**20.688784**		9.93735E-01	3.893454	3.893454	1.00 SA	96%				
				(1.621733)		(4.4575E-02)	(0.210105)	(0.210105)	(0.027064)					
	07/20/06	TH-230	R	**0.043487**	U4	1.99947E-03	0.008184	0.008184	1.00 SA	96%		0.11785		
				(0.043664)		(1.9995E-03)	(0.008204)	(0.008204)	(0.027064)					
	07/20/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	96%		0.11785		
				(0.053261)		(0.0000E+00)	(0.010023)	(0.010023)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MX31AA**	**PCI/SA**		06/12/06 18:35	07/19/06 10:14			1	1.00 SA	
536403,P-0672					,J6G030156-5 v4.8.18		FILTER					THTF0702 Alq		0.08286 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	3	2	ALP119	ED	N	N	2.5157E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0370E+00	
			500.1333333	1000.0833			Y		(7.547E-03)			7%			(0.000E+00)	12.068515		
1	07/19/06 06:04	TH-229	550	1	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.547E-03)						(0.000E+00)	12.068515		
2	07/19/06 06:04	TH-230	10	0	ALP119	ED	N	N	2.5157E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.547E-03)			7%			(0.000E+00)	12.068515		
3	07/19/06 06:04	TH-232	1	0	ALP119	ED	N	N	2.5157E-01		N	107%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.547E-03)			7%			(0.000E+00)	12.068515		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.090145**	U4	3.99857E-03	0.01599	0.01599	1.00 SA	107%		0.331782		
				(0.084714)		(3.7408E-03)	(0.014999)	(0.014999)	(0.027064)			0.104875		
	07/20/06	TH-229	R	**23.742113**		1.09871E+00	4.36736	4.36736	1.00 SA	107%				
				(1.832114)		(4.6902E-02)	(0.227871)	(0.227871)	(0.027064)					
	07/20/06	TH-230	R	**0.432068**		1.99947E-02	0.079479	0.079479	1.00 SA	107%		0.11709		
				(0.141955)		(6.3229E-03)	(0.025719)	(0.025719)	(0.027064)					
	07/20/06	TH-232	R	**0.043207**	U4	1.99947E-03	0.007948	0.007948	1.00 SA	107%		0.11709		
				(0.043378)		(1.9995E-03)	(0.007967)	(0.007967)	(0.027064)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:6 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191213 — Alpha Spec, ThIso by ALP , Calculated Results — 7/20/2006 8:09:48 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MX61AA**	**PCI/SA**		06/12/06 19:10	07/19/06 10:14			1	1.00 SA	
536403,P-0673					,J6G030156-6 v4.8.18		FILTER					THTF0703 Alq		0.084493 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 06:04	TH-228	2	4	ALP120	ED	N	N	2.4073E-01		N	29%	N		1.0000E+00	4.5045E-01	1.0370E+00	
			500.0833333	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	11.835248		
1	07/19/06 06:04	TH-229	142	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.05			Y		(7.222E-03)						(0.000E+00)	11.835248		
2	07/19/06 06:04	TH-230	5	1	ALP120	ED	N	N	2.4073E-01		N	29%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	11.835248		
3	07/19/06 06:04	TH-232	0	0	ALP120	ED	N	N	2.4073E-01		N	29%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0833333	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	11.835248		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**-3.742E-05**	U4	-4.66566E-07	-6.7686E-06	-6.7686E-06	1.00 SA	29%		1.489346		
				(0.277794)		(3.4637E-03)	(0.050249)	(0.050249)	(0.027064)			0.527674		
	07/20/06	TH-229	R	**6.266201**		2.82953E-01	1.175386	1.175386	1.00 SA	29%				
				(0.664249)		(2.3850E-02)	(0.10516)	(0.10516)	(0.027064)					
	07/20/06	TH-230	R	**0.691773**		8.99838E-03	0.12976	0.12976	1.00 SA	29%		0.922105		
				(0.361113)		(4.5818E-03)	(0.067333)	(0.067333)	(0.027064)			0.2529		
	07/20/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	29%		0.416607		
				(0.188279)		(0.0000E+00)	(0.035317)	(0.035317)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8MX81AA**	**PCI/SA**		06/12/06 14:35	07/19/06 20:35			1	1.00 SA	
536403,P-0674					,J6G030156-7 v4.8.18		FILTER					THTF0704 Alq		0.085167 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	4	6	ALP171	ED	N	N	2.9087E-01		N	70%	N		1.0000E+00	4.5045E-01	1.0376E+00	
			499.4666666	998.95			Y		(8.726E-03)			5%			(0.000E+00)	11.74167		
1	07/19/06 16:26	TH-229	418	4	ALP171	ED	Y	N	2.9087E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)						(0.000E+00)	11.74167		
2	07/19/06 16:26	TH-230	12	1	ALP171	ED	N	N	2.9087E-01		N	70%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			5%			(0.000E+00)	11.74167		
3	07/19/06 16:26	TH-232	1	0	ALP171	ED	N	N	2.9087E-01		N	70%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.726E-03)			5%			(0.000E+00)	11.74167		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 — Alpha Spec, ThIso by ALP , Calculated Results — 7/20/2006 8:09:48 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.054185**	U4	2.00224E-03	0.009873	0.009873	1.00 SA	70%		0.583215		
				(0.127166)		(4.6954E-03)	(0.023165)	(0.023165)	(0.027064)			0.21832		
	07/20/06	TH-229	R	**15.144997**		8.32888E-01	2.863471	2.863471	1.00 SA	70%				
				(1.226057)		(4.0983E-02)	(0.165021)	(0.165021)	(0.027064)					
	07/20/06	TH-230	R	**0.596896**		2.30246E-02	0.112855	0.112855	1.00 SA	70%		0.311321		
				(0.189856)		(7.0075E-03)	(0.035318)	(0.035318)	(0.027064)			0.085381		
	07/20/06	TH-232	R	**0.051904**	U4	2.00214E-03	0.009813	0.009813	1.00 SA	70%		0.14066		
				(0.052125)		(2.0021E-03)	(0.00984)	(0.00984)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M0K1AA**	**PCI/SA**		06/14/06 01:00	07/19/06 20:35			1	1.00 SA	
536403,000494					,J6G030156-8 v4.8.18		FILTER					THTF0705 Alq		0.083714 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	3	6	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0362E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.945504		
1	07/19/06 16:26	TH-229	623	7	ALP172	ED	Y	N	2.9949E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)						(0.000E+00)	11.945504		
2	07/19/06 16:26	TH-230	12	1	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.945504		
3	07/19/06 16:26	TH-232	1	2	ALP172	ED	N	N	2.9949E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.985E-03)			6%			(0.000E+00)	11.945504		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**1.8768E-06**	U4	1.00212E-07	3.3663E-07	3.3663E-07	1.00 SA	102%		0.403619		
				(0.079543)		(4.2471E-03)	(0.014267)	(0.014267)	(0.027064)			0.151091		
	07/20/06	TH-229	R	**22.284472**		1.24032E+00	4.141439	4.141439	1.00 SA	102%				
				(1.691324)		(5.0043E-02)	(0.208224)	(0.208224)	(0.027064)					
	07/20/06	TH-230	R	**0.413675**		2.30246E-02	0.076879	0.076879	1.00 SA	102%		0.215759		
				(0.131062)		(7.0075E-03)	(0.023962)	(0.023962)	(0.027064)			0.059173		
	07/20/06	TH-232	R	**6.0016E-07**	U4	3.34040E-08	1.1154E-07	1.1154E-07	1.00 SA	102%		0.26475		
				(0.044056)		(2.4521E-03)	(0.008188)	(0.008188)	(0.027064)			0.083683		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M0Q1AA**	**PCI/SA**		06/14/06 01:00	07/19/06 20:35			1	1.00 SA	
536403,000495					,J6G030156-9 v4.8.18		FILTER					THTF0706 Alq		0.083615 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	4	1	ALP173	ED	N	N	2.5374E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0362E+00	
			499.4666666	998.95			Y		(7.612E-03)			6%			(0.000E+00)	11.959614		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:9 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 Alpha Spec, Thlso by ALP , Calculated Results 7/20/2006 8:09:49 AM

1	07/19/06 16:26	TH-229	496	2	ALP173	ED	Y	N	2.5374E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.612E-03)				(0.000E+00)	11.959614	
2	07/19/06 16:26	TH-230	6	0	ALP173	ED	N	N	2.5374E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.612E-03)		6%		(0.000E+00)	11.959614	
3	07/19/06 16:26	TH-232	1	0	ALP173	ED	N	N	2.5374E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(7.612E-03)		6%		(0.000E+00)	11.959614	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.161419**		7.00749E-03	0.028918	0.028918	1.00 SA	96%		0.276627		
				(0.096188)		(4.1275E-03)	(0.017153)	(0.017153)	(0.027064)			0.075866		
	07/20/06	TH-229	R	**21.041121**		9.91057E-01	3.905756	3.905756	1.00 SA	96%				
				(1.651264)		(4.4612E-02)	(0.211284)	(0.211284)	(0.027064)					
	07/20/06	TH-230	R	**0.26546**		1.20128E-02	0.049276	0.049276	1.00 SA	96%		0.119899		
				(0.110991)		(4.9042E-03)	(0.020411)	(0.020411)	(0.027064)					
	07/20/06	TH-232	R	**0.044243**	U4	2.00214E-03	0.008213	0.008213	1.00 SA	96%		0.119899		
				(0.044423)		(2.0021E-03)	(0.008233)	(0.008233)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M0V1AA**	**PCI/SA**		06/13/06 04:00	07/19/06 20:35			1	1.00 SA	
536403,000496					,J6G030156-10 v4.8.18		FILTER					THTF0707 Alq		0.08426 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	2	0	ALP174	ED	N	N	2.4814E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0371E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	11.86805		
1	07/19/06 16:26	TH-229	533	3	ALP174	ED	Y	N	2.4814E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)						(0.000E+00)	11.86805		
2	07/19/06 16:26	TH-230	4	0	ALP174	ED	N	N	2.4814E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	11.86805		
3	07/19/06 16:26	TH-232	1	0	ALP174	ED	N	N	2.4814E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.444E-03)			7%			(0.000E+00)	11.86805		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.090006**	U4	4.00427E-03	0.016235	0.016235	1.00 SA	105%		0.121958		
				(0.064151)		(2.8314E-03)	(0.011534)	(0.011534)	(0.027064)					
	07/20/06	TH-229	R	**22.925974**		1.06414E+00	4.288465	4.288465	1.00 SA	105%				
				(1.779076)		(4.6255E-02)	(0.226496)	(0.226496)	(0.027064)					
	07/20/06	TH-230	R	**0.172538**		8.00854E-03	0.032274	0.032274	1.00 SA	105%		0.116894		
				(0.08764)		(4.0043E-03)	(0.016291)	(0.016291)	(0.027064)					
	07/20/06	TH-232	R	**0.043134**	U4	2.00214E-03	0.008069	0.008069	1.00 SA	105%		0.116894		
				(0.043307)		(2.0021E-03)	(0.008088)	(0.008088)	(0.027064)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 — Alpha Spec, Thlso by ALP , Calculated Results — 7/20/2006 8:09:49 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M051AA**	**PCI/SA**		06/13/06 14:00	07/19/06 20:35			1	1.00 SA	
536403,000497					,J6G030156-11 v4.8.18		FILTER					THTF0708 Alq		0.083146 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	2	1	ALP175	ED	N	N	2.9360E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0366E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.027064		
1	07/19/06 16:26	TH-229	660	2	ALP175	ED	Y	N	2.9360E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)						(0.000E+00)	12.027064		
2	07/19/06 16:26	TH-230	8	0	ALP175	ED	N	N	2.9360E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.027064		
3	07/19/06 16:26	TH-232	3	1	ALP175	ED	N	N	2.9360E-01		N	109%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.808E-03)			6%			(0.000E+00)	12.027064		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/LcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.057793**	U4	3.00322E-03	0.010291	0.010291	1.00 SA	109%		0.231094		
				(0.058013)		(3.0032E-03)	(0.010313)	(0.010313)	(0.027064)			0.063379		
	07/20/06	TH-229	R	**24.346121**		1.31941E+00	4.493902	4.493902	1.00 SA	109%				
				(1.830558)		(5.1455E-02)	(0.221112)	(0.221112)	(0.027064)					
	07/20/06	TH-230	R	**0.295552**		1.60171E-02	0.054554	0.054554	1.00 SA	109%		0.100118		
				(0.10764)		(5.6629E-03)	(0.019625)	(0.019625)	(0.027064)					
	07/20/06	TH-232	R	**0.09236**	U4	5.00536E-03	0.017048	0.017048	1.00 SA	109%		0.221591		
				(0.067089)		(3.6094E-03)	(0.012346)	(0.012346)	(0.027064)			0.060772		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M081AA**	**PCI/SA**		06/13/06 12:00	07/19/06 20:35			1	1.00 SA	
536403,000498					,J6G030156-12 v4.8.18		FILTER					THTF0709 Alq		0.085137 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	6	3	ALP176	ED	N	N	2.9146E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0367E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.745843		
1	07/19/06 16:26	TH-229	616	2	ALP176	ED	Y	N	2.9146E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)						(0.000E+00)	11.745843		
2	07/19/06 16:26	TH-230	12	1	ALP176	ED	N	N	2.9146E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.745843		
3	07/19/06 16:26	TH-232	1	2	ALP176	ED	N	N	2.9146E-01		N	103%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(8.744E-03)			6%			(0.000E+00)	11.745843		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 — Alpha Spec, Thiso by ALP , Calculated Results — 7/20/2006 8:09:49 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.170581**		9.00966E-03	0.031099	0.031099	1.00 SA	103%		0.318607		
				(0.099623)		(5.2017E-03)	(0.018076)	(0.018076)	(0.027064)			0.108004		
	07/20/06	TH-229	R	**22.352192**		1.23131E+00	4.224636	4.224636	1.00 SA	103%				
				(1.696772)		(4.9712E-02)	(0.212495)	(0.212495)	(0.027064)					
	07/20/06	TH-230	R	**0.417968**		2.30246E-02	0.078997	0.078997	1.00 SA	103%		0.217998		
				(0.132423)		(7.0075E-03)	(0.024622)	(0.024622)	(0.027064)			0.059787		
	07/20/06	TH-232	R	**6.0639E-07**	U4	3.34040E-08	1.1461E-07	1.1461E-07	1.00 SA	103%		0.267498		
				(0.044513)		(2.4521E-03)	(0.008413)	(0.008413)	(0.027064)			0.084552		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M1C1AA**	**PCI/SA**		06/13/06 13:00	07/19/06 20:35			1	1.00 SA	
536403,000499					,J6G030156-13 v4.8.18		FILTER					THTF0710 Alq		0.083935 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	2	1	ALP177	ED	N	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0367E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.914027		
1	07/19/06 16:26	TH-229	533	0	ALP177	ED	Y	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)						(0.000E+00)	11.914027		
2	07/19/06 16:26	TH-230	6	0	ALP177	ED	N	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.914027		
3	07/19/06 16:26	TH-232	0	0	ALP177	ED	N	N	2.6130E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			499.4666666	998.95			Y		(7.839E-03)			6%			(0.000E+00)	11.914027		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.064329**	U4	3.00322E-03	0.011563	0.011563	1.00 SA	100%		0.257228		
				(0.064585)		(3.0032E-03)	(0.01159)	(0.01159)	(0.027064)			0.070546		
	07/20/06	TH-229	R	**21.917163**		1.06714E+00	4.083938	4.083938	1.00 SA	100%				
				(1.698917)		(4.6223E-02)	(0.21518)	(0.21518)	(0.027064)					
	07/20/06	TH-230	R	**0.246722**		1.20128E-02	0.045973	0.045973	1.00 SA	100%		0.111436		
				(0.103112)		(4.9042E-03)	(0.019035)	(0.019035)	(0.027064)					
	07/20/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	100%		0.111436		
				(0.050362)		(0.0000E+00)	(0.009384)	(0.009384)	(0.027064)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M1E1AA**	**PCI/SA**		06/13/06 09:00	07/19/06 20:35			1	1.00 SA	
536403,000500					,J6G030156-14 v4.8.18		FILTER					THTF0711 Alq		0.084549 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	1	1	ALP178	ED	N	N	3.1338E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0368E+00	
			499.4666666	998.95			Y		(9.401E-03)			6%			(0.000E+00)	11.827426		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:14 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 Alpha Spec, Thlso by ALP , Calculated Results 7/20/2006 8:09:49 AM

1	07/19/06 16:26	TH-229	614	1	ALP178	ED	Y	N	3.1338E-01	N	100%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(9.401E-03)				(0.000E+00)	11.827426	
2	07/19/06 16:26	TH-230	2	1	ALP178	ED	N	N	3.1338E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(9.401E-03)		6%		(0.000E+00)	11.827426	
3	07/19/06 16:26	TH-232	0	2	ALP178	ED	N	N	3.1338E-01	N	96%	N	1.0000E+00	4.5045E-01	1.0000E+00
			499.4666666	998.95			Y		(9.401E-03)		6%		(0.000E+00)	11.827426	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.018471**	U4	1.00108E-03	0.003344	0.003344	1.00 SA	96%		0.221573		
				(0.041333)		(2.2384E-03)	(0.00748)	(0.00748)	(0.027064)			0.060767		
	07/20/06	TH-229	R	**20.881981**		1.22831E+00	3.919538	3.919538	1.00 SA	96%				
				(1.585443)		(4.9621E-02)	(0.197227)	(0.197227)	(0.027064)					
	07/20/06	TH-230	R	**0.053122**	U4	3.00322E-03	0.009971	0.009971	1.00 SA	96%		0.212418		
				(0.053327)		(3.0032E-03)	(0.009993)	(0.009993)	(0.027064)			0.058257		
	07/20/06	TH-232	R	**-0.035414**	U4	-2.00210E-03	-0.006647	-0.006647	1.00 SA	96%		0.260651		
				(0.025235)		(1.4157E-03)	(0.004721)	(0.004721)	(0.027064)			0.082387		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8M1G1AA**	**PCI/SA**		06/13/06 00:00	07/19/06 20:36			1	1.00 SA	
536403,000501					,J6G030156-15 v4.8.18		FILTER					THTF0712 Alq		0.085036 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	2	2	ALP119	ED	N	N	2.5157E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0372E+00	
			500.0333333	1000.0833			Y		(7.547E-03)			6%			(0.000E+00)	11.759792		
1	07/19/06 16:26	TH-229	478	1	ALP119	ED	Y	N	2.5157E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.0833			Y		(7.547E-03)						(0.000E+00)	11.759792		
2	07/19/06 16:26	TH-230	11	0	ALP119	ED	N	N	2.5157E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.0833			Y		(7.547E-03)			6%			(0.000E+00)	11.759792		
3	07/19/06 16:26	TH-232	0	0	ALP119	ED	N	N	2.5157E-01		N	93%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.0333333	1000.0833			Y		(7.547E-03)			6%			(0.000E+00)	11.759792		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.047234**	U4	1.99990E-03	0.008597	0.008597	1.00 SA	93%		0.347636		
				(0.074805)		(3.1621E-03)	(0.013606)	(0.013606)	(0.027064)			0.109882		
	07/20/06	TH-229	R	**20.107486**		9.54936E-01	3.795872	3.795872	1.00 SA	93%				
				(1.58709)		(4.3735E-02)	(0.207823)	(0.207823)	(0.027064)					
	07/20/06	TH-230	R	**0.497914**		2.19985E-02	0.093996	0.093996	1.00 SA	93%		0.122668		
				(0.156766)		(6.6328E-03)	(0.029108)	(0.029108)	(0.027064)					
	07/20/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	93%		0.122668		
				(0.055438)		(0.0000E+00)	(0.010466)	(0.010466)	(0.027064)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191213 — Alpha Spec, Thiso by ALP , Calculated Results — 7/20/2006 8:09:50 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8W1N1AA**	**PCI/SA**	**B**	06/12/06 14:25	07/19/06 20:37			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G100000-213		FILTER					THTF0713 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/19/06 16:26	TH-228	3	4	ALP120	ED	N	N	2.4073E-01		N	27%	N		1.0000E+00	4.5045E-01	1.0376E+00	
			500.1166666	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	1.00		
1	07/19/06 16:26	TH-229	135	1	ALP120	ED	Y	N	2.4073E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1166666	1000.05			Y		(7.222E-03)						(0.000E+00)	1.00		
2	07/19/06 16:26	TH-230	2	1	ALP120	ED	N	N	2.4073E-01		N	27%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1166666	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	1.00		
3	07/19/06 16:26	TH-232	0	0	ALP120	ED	N	N	2.4073E-01		N	27%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1166666	1000.05			Y		(7.222E-03)			3%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-228	R	**0.014245**	U4	1.99880E-03	0.030476	0.030476	1.00 SA	27%		0.132336		
				(0.028548)		(3.9993E-03)	(0.061057)	(0.061057)	(0.017321)			0.046887		
	07/20/06	TH-229	R	**0.503227**		2.68937E-01	1.117165	1.117165	1.00 SA	27%				
				(0.0532)		(2.3254E-02)	(0.102246)	(0.102246)	(0.017321)					
	07/20/06	TH-230	R	**0.020475**	U4	2.99912E-03	0.045454	0.045454	1.00 SA	27%		0.081882		
				(0.020611)		(2.9994E-03)	(0.045693)	(0.045693)	(0.017321)			0.022458		
	07/20/06	TH-232	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	27%		0.036994		
				(0.016719)		(0.0000E+00)	(0.037116)	(0.037116)	(0.017321)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	S1	FILTER	*STLE	AlpIsoWoBS	**H8W1N1AC**	**PCI/SA**	**S**	06/12/06 14:25	07/19/06 20:37		THSO0083	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G100000-213		FILTER					THSO0083 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/19/06 16:27	TH-229	286	0	ALP116	ED	Y	N	2.5523E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.657E-03)						(0.000E+00)	1.00		
2	07/19/06 16:27	TH-230	316	0	ALP116	ED	N	N	2.5523E-01		N	55%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			500.1333333	1000.0833			Y		(7.657E-03)			4%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/20/06	TH-229	R	**1.009233**		5.71848E-01	2.240499	2.240499	1.00 SA	55%				
				(0.085615)		(3.3814E-02)	(0.148559)	(0.148559)	(0.017321)					
	07/20/06	TH-230	R	**2.024352**		6.31832E-01	4.494066	4.494066	1.00 SA	55%	111%	0.017361		
				(0.224968)		(3.5543E-02)	(0.439179)	(0.439179)	(0.017321)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.18

STL Richland

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

1435

STL RICHLAND

C.R. Technician: CB
Date Counted: 7/19/06

C.R. Analyst: SD
Date Analyzed: 7/19/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report

SOP's
Operating: RICHRD008
Review: RICHRD0016

BRC 6/12 6/19/2013

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
					Th-228 (5423 KeV)	Th-230 (4688 KeV)	Th-232 (4010 KeV)		
	ID	Activity	ROI Cts	BKG	(6)	(8)	(9)		
H8mXT1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H8mXV1AA		10		0	See Alpha Analysis Report for ROI Information			178	
H8mXW1AA		10		0	See Alpha Analysis Report for ROI Information			114	
H8mXX1AA		10		0	See Alpha Analysis Report for ROI Information			116	
H8mX31AA		10		0	See Alpha Analysis Report for ROI Information			119	
H8mX61AA		10		0	See Alpha Analysis Report for ROI Information			120	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Form No: RC-012, 10/02, Rev 9

Approved by: OA

Date: 7/19/06

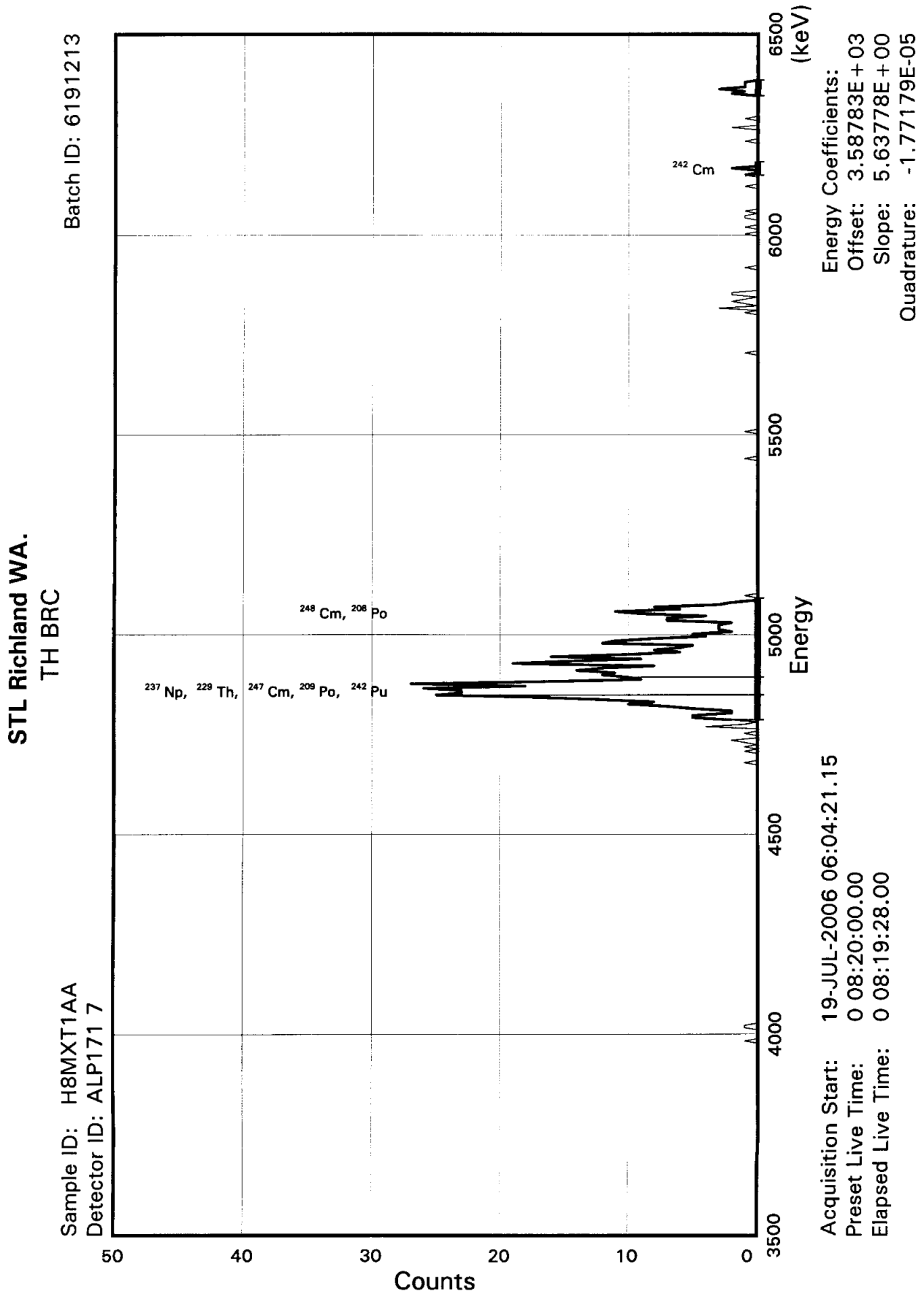
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MXT1AA

Detector: ALP171 7
Report Date: 19-Jul-06 04:04 PM
Acquire Date: 19-JUL-2006 06:04:21.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	112.5	311	331
TH-229	520	0	1.041	4845.3	343.4	208	269
TH-230	3	0	0.006	4687.7	123.9	180	202
TH-232	3	0	0.006	4013.0	112.7	60	80

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8MXT1AA
Detector ID: ALP171 7
^{237}Np, ^{229}Th, ^{247}Cm, ^{209}Po, ^{242}Pu
^{248}Cm, ^{208}Po
^{242}Cm
Counts
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 19-JUL-2006 06:04:21.15
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.58783E+03
Slope: 5.63778E+00
Quadrature: -1.77179E-05

SAMPLE IDENTIITY: H8MXT1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8MXT1AA_190760604G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:21 CALIB DATE : 07-JUL-2006 02:10:41

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3587.83 keV CONSTANT FWHM : 6.50000 Channels
SLOPE : 5.63778 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.177179E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXT1AA

Detector: ALP171 7
Report Date: 19-Jul-06 02:25 PM
Acquire Date: 19-JUL-2006 06:04:21.15
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	225	0	0	0.450	5128.6	242.1	224	267	0.00	0.00	P
PO-209	294	0	0	0.589	4896.9	107.0	213	232	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5318.0	106.9	295	314	0.00	0.00	M
AC-227	5	0	0	0.010	6051.7	106.8	425	444	0.00	0.00	
TH-227	5	0	0	0.010	6051.7	106.8	425	444	0.00	0.00	
TH-228	-9999	-9999	0	-10.010	5436.9	106.9	316	335	0.00	0.00	M
TH-229	294	0	0	0.589	4859.0	107.0	213	232	0.00	0.00	P
TH-230	4	0	4	0.008	4701.4	107.0	185	204	0.00	0.00	S
TH-232	3	0	0	0.006	4026.7	107.1	65	84	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5333.8	106.9	297	316	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4788.3	107.0	200	219	0.00	0.00	S I
U-235	0	1	0	-0.001	4411.5	107.0	134	153	0.00	0.00	
PU-236	2	10	4	-0.006	5781.3	106.9	377	396	0.00	0.00	S
NP-237	294	0	0	0.589	4801.7	107.0	213	232	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5512.7	106.9	329	348	0.00	0.00	M
U-238	0	0	0	0.000	4211.7	107.0	98	117	0.00	0.00	
PU-239	1	1	0	0.001	5170.3	106.9	268	287	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5499.3	106.9	327	346	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5220.5	106.9	277	296	0.00	0.00	M
CM-242	4	3	0	0.005	6126.4	33.7	455	461	0.00	0.00	P
PU-242	294	0	0	0.589	4914.2	107.0	213	232	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5289.0	106.9	289	308	0.00	0.00	M
CM-244	10	44	4	-0.024	5818.5	106.9	384	403	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5400.2	106.9	309	328	0.00	0.00	M
CM-247	294	0	0	0.589	4884.1	107.0	213	232	0.00	0.00	P
CM-248	225	0	0	0.450	5092.3	242.1	224	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXT1AA
Detector: ALP171 7
Report Date: 19-Jul-06 02:25 PM
Acquire Date: 19-JUL-2006 06:04:21.15

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0+	101		0+	151		1@	201		5@	251		0@	301		0	351		0-	401		0	451		0	501
		2		0	52		0+	102		0+	152		0@	202		2@	252		0@	302		0	352		2-	402		0	452		0	502
	0	3		0	53		0+	103		0+	153		1@	203		3@	253		0@	303		0	353		2-	403		0	453		0	503
	0	4		0	54		0+	104		0	154		2@	204		3@	254		0@	304		0	354		0	404		0	454		0	504
	0	5		0	55		0+	105		0	155		0-	205		3@	255		0@	305		0	355		0	405		1+	455		0	505
	0	6		0	56		0+	106		0	156		0-	206		2@	256		0@	306		0	356		0	406		0+	456		0	506
	0	7		0	57		0+	107		0	157		1-	207		7@	257		0@	307		0	357		0	407		0+	457		0	507
	0	8		0	58		0+	108		0	158		0-	208		7@	258		0@	308		0	358		0	408		2+	458		0	508
	0	9		0	59		0+	109		0	159		0-	209		4@	259		0+	309		0	359		0	409		0+	459		0	509
	0	10		0	60		0+	110		0	160		4-	210		9@	260		0@	310		0	360		0	410		0+	460		0	510
	0	11		0	61		0+	111		0	161		1-	211		11@	261		0@	311		0	361		0	411		0	461		0	511
	0	12		0	62		0+	112		0	162		0-	212		6@	262		0@	312		0	362		0	412		0	462		0	512
	0	13		0	63		0+	113		0	163		2-	213		8@	263		0@	313		0	363		0	413		0	463			
	0	14		0	64		0+	114		0	164		5@	214		3@	264		0@	314		0	364		1	414		0	464			
	0	15		0+	65		0+	115		0	165		5@	215		2@	265		0@	315		0	365		0	415		0	465			
	0	16		0+	66		0+	116		0	166		2@	216		0@	266		0@	316		0	366		0	416		0	466			
	0	17		0+	67		0+	117		0	167		2@	217		0	267		0@	317		0	367		0	417		0	467			
	0	18		0+	68		0	118		0	168		5@	218		1+	268		0@	318		0	368		0	418		0	468			
	0	19		0+	69		0	119		0	169		7@	219		0+	269		0@	319		0	369		0	419		0	469			
	0	20		1+	70		0	120		0	170		10@	220		0+	270		0@	320		0	370		0	420		1	470			
	0	21		0+	71		0	121		0	171		8@	221		0+	271		0@	321		0	371		0	421		0	471			
	0	22		0+	72		0	122		0	172		12@	222		0+	272		0@	322		0	372		0	422		0	472			
	0	23		0+	73		0	123		0	173		17@	223		0+	273		0@	323		0	373		0	423		0	473			
	0	24		0+	74		0	124		0	174		25-	224		0+	274		0@	324		0	374		0	424		0	474			
	0	25		0+	75		0	125		0	175		23@	225		0+	275		0@	325		0	375		0@	425		0	475			
	0	26		1+	76		0	126		0	176		23@	226		0+	276		0@	326		1	376		0@	426		2	476			
	0	27		1+	77		0	127		0	177		26@	227		0@	277		0@	327		0+	377		0@	427		0	477			
	0	28		0+	78		0	128		0	178		18@	228		0@	278		0@	328		0+	378		0@	428		0	478			
	0	29		0+	79		0	129		0	179		27@	229		0@	279		1@	329		0+	379		1@	429		0	479			
	0	30		0+	80		0	130		0	180		17@	230		0@	280		0@	330		0+	380		0@	430		1	480			
	0	31		0+	81		0	131		0	181		9@	231		0@	281		0@	331		0+	381		0@	431		0	481			
	0	32		0+	82		0	132		0	182		10@	232		0@	282		0@	332		0+	382		1@	432		0	482			
	0	33		0+	83		0	133		0	183		12@	233		0@	283		0@	333		0+	383		0@	433		0	483			
	0	34		0+	84		0+	134		0	184		11@	234		0@	284		0@	334		0@	384		0@	434		0	484			
	0	35		0	85		0+	135		0+	185		14@	235		0@	285		0@	335		0@	385		0@	435		0	485			
	0	36		0	86		0+	136		0+	186		12@	236		0@	286		0@	336		0@	386		1@	436		0	486			
	0	37		0	87		0+	137		0+	187		8@	237		0@	287		0@	337		0@	387		1@	437		0	487			
	0	38		0	88		0+	138		0+	188		19@	238		0-	288		0@	338		0@	388		0@	438		0	488			
	0	39		0	89		0+	139		0+	189		15@	239		0@	289		0@	339		0@	389		1@	439		0	489			
	0	40		0	90		0+	140		0+	190		9@	240		0@	290		0@	340		0@	390		0@	440		0	490			
	0	41		0	91		0+	141		0+	191		16@	241		0@	291		1@	341		0@	391		0@	441		2	491			
	0	42		0	92		0+	142		0+	192		10@	242		0@	292		0@	342		0@	392		0@	442		1	492			
	0	43		0	93		0+	143		0+	193		6@	243		0@	293		0@	343		0@	393		0@	443		3	493			
	0	44		0	94		0+	144		1+	194		8@	244		0@	294		0@	344		1@	394		0@	444		1	494			
	0	45		0	95		0+	145		0+	195		6@	245		0@	295		0@	345		0@	395		0	445		1	495			
	0	46		0	96		0+	146		0+	196		5@	246		0@	296		0@	346		3@	396		0	446		1	496			
	0	47		0	97		0+	147		0+	197		12@	247		0@	297		0+	347		0-	397		0	447		0	497			
	0	48		0+	98		0+	148		0+	198		11@	248		0@	298		0+	348		1-	398		0	448		0	498			
	0	49		0+	99		0+	149		1+	199		8@	249		0@	299		0	349		2-	399		0	449		0	499			
	0	50		0+	100		0+	150		0@	200		4@	250		0@	300		0	350		1-	400		1	450		0	500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:25:28

Configuration : $DISK1:[ALP171.SAMPLE]H8MXT1AA_190760604G.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:21
Sample ID : H8MXT1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3604.75 keV End energy : 6469.73 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4858.96	294	0	45.10	225.63	213	19	9.81E-03	5.8	
2	0	5053.56	225	0	39.46	260.20	224	43	7.51E-03	6.7	
3	0	6163.41	4	0	22.55	457.50	455	6	1.33E-04	50.0	
4	0	6361.35	8	0	22.55	492.71	490	7	2.67E-04	35.4	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 14:25:30

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8MXT1AA_190760604G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:21
Sample ID         : H8MXT1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

Total number of lines in spectrum	4	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	3	75.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-242	162.80D	1.17	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8MXT1AA_190760604G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4858.96	213	232	294	253	2.39		
5053.56	224	267	225	439	-14.27	178	0.22
6163.40	455	461	4	3	0.50		
6361.34	490	497	8	9	-0.35		

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

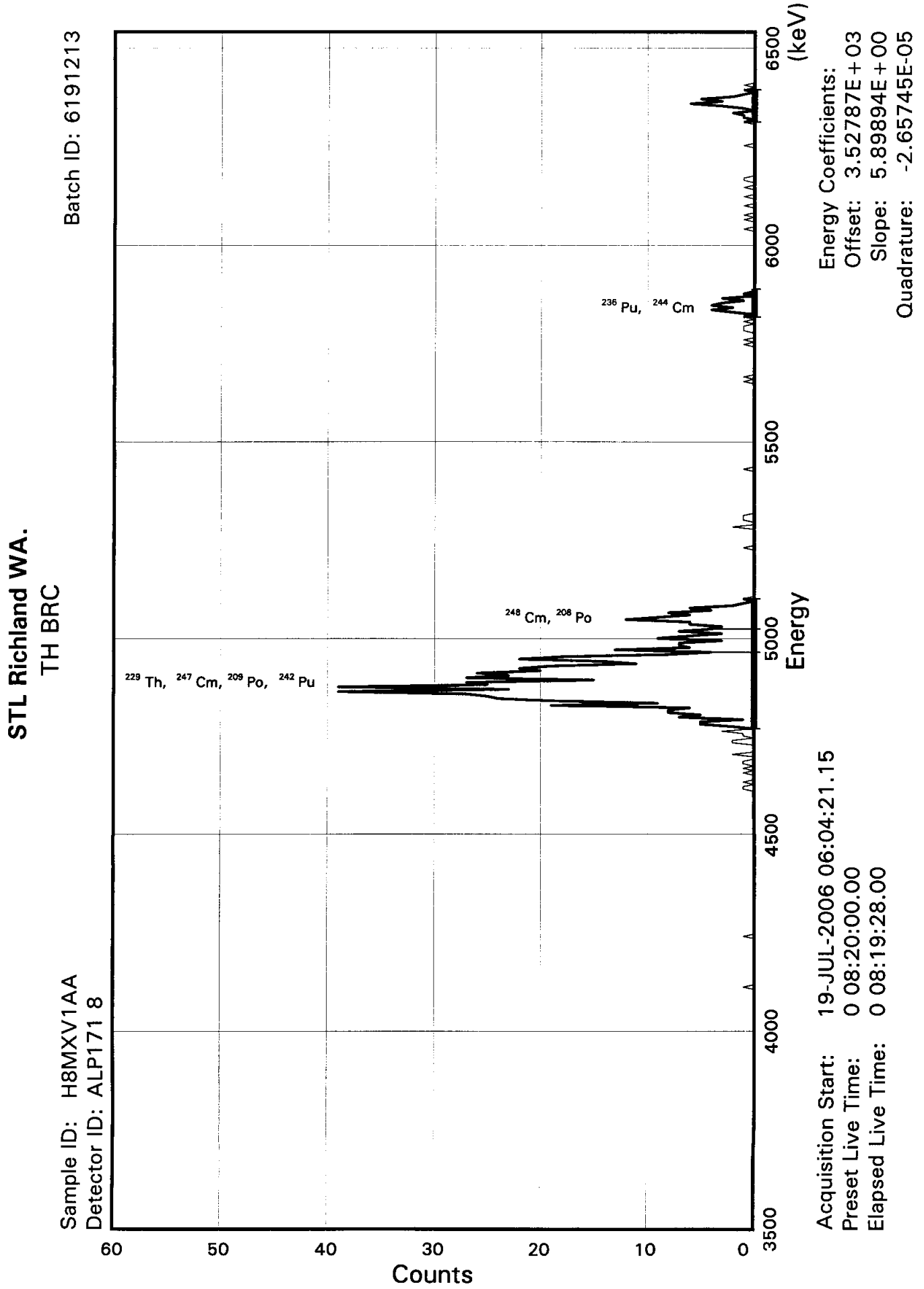
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MXV1AA

Detector: ALP171 8
Report Date: 19-Jul-06 04:05 PM
Acquire Date: 19-JUL-2006 06:04:21.15
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	117.6	307	327
TH-229	686	1	1.372	4845.3	359.1	207	268
TH-230	9	1	0.017	4687.7	117.8	182	202
TH-232	0	2	-0.002	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8MXV1AA
Detector ID: ALP171 8
229 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
236 Pu, 244 Cm
Counts
60
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 19-JUL-2006 06:04:21.15
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.52787E+03
Slope: 5.89894E+00
Quadrature: -2.65745E-05

SAMPLE IDENTIITY: H8MXV1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8MXV1AA_190760604H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:21 CALIB DATE : 07-JUL-2006 02:11:05

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3527.87 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.89894 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.265745E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXV1AA

Detector: ALP171 8
Report Date: 19-Jul-06 02:25 PM
Acquire Date: 19-JUL-2006 06:04:21.15
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	74	0	0	0.148	5160.3	135.4	244	267	0.00	0.00	P
PO-209	606	1	0	1.212	4928.6	253.1	211	254	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5349.8	252.9	289	332	0.00	0.00	M
AC-227	4	8	8	0.000	6083.4	252.7	414	457	0.00	0.00	S
TH-227	4	8	8	0.000	6083.4	252.7	414	457	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5468.6	252.9	309	352	0.00	0.00	M
TH-229	606	1	0	1.212	4890.7	253.1	211	254	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4733.1	253.2	184	227	0.00	0.00	M I
TH-232	1	3	0	-0.001	4058.4	253.4	70	113	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5365.6	252.9	292	335	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4820.0	253.2	199	242	0.00	0.00	M I
U-235	0	3	0	-0.003	4443.2	253.3	135	178	0.00	0.00	S
PU-236	21	49	0	-0.007	5813.1	70.5	389	401	0.00	0.00	P
NP-237	-9999	-9999	0	-10.010	4833.4	253.1	201	244	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5544.4	252.9	322	365	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4243.4	253.4	101	144	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5202.0	253.0	264	307	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5531.0	252.9	320	363	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5252.2	253.0	272	315	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6158.1	258.5	426	470	0.00	0.00	M
PU-242	606	1	0	1.212	4945.9	253.1	211	254	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5320.7	253.0	284	327	0.00	0.00	M
CM-244	21	49	0	-0.007	5850.2	70.5	389	401	0.00	0.00	P
CM-246	-9999	-9999	0	-10.010	5431.9	252.9	303	346	0.00	0.00	M
CM-247	606	1	0	1.212	4915.8	253.1	211	254	0.00	0.00	P
CM-248	74	0	0	0.148	5124.0	135.4	244	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXV1AA
Detector: ALP171 8
Report Date: 19-Jul-06 02:25 PM
Acquire Date: 19-JUL-2006 06:04:21.15

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	@	101	0	+	151	0	-	201	6	@	251	1	@	301	0	@	351	0		401	0	@	451	0		501
		2	0		52	0	@	102	0	+	152	0	@	202	3	@	252	1	@	302	0	@	352	0		402	0	@	452	0		502
0		3	0		53	0	@	103	0	+	153	0	@	203	7	@	253	1	-	303	0	@	353	0		403	0	@	453	0		503
0		4	0		54	0	@	104	0	+	154	0	@	204	4	@	254	0	@	304	0	@	354	0		404	0	@	454	0		504
0		5	0		55	0	@	105	0	+	155	2	@	205	3	@	255	0	@	305	0	@	355	0		405	0	@	455	0		505
0		6	0		56	0	@	106	0	+	156	2	@	206	6	@	256	0	@	306	0	@	356	0		406	0	@	456	0		506
0		7	0		57	0	@	107	0	+	157	0	@	207	6	@	257	0	@	307	0	@	357	0		407	0	@	457	0		507
0		8	0		58	0	@	108	0	+	158	1	@	208	12	@	258	0	@	308	0	@	358	0		408	0	-	458	0		508
0		9	0		59	0	@	109	0	+	159	1	@	209	9	@	259	0	@	309	0	@	359	0		409	0	-	459	0		509
0		10	0		60	0	@	110	0	+	160	3	@	210	6	@	260	0	@	310	0	@	360	0		410	0	-	460	0		510
0		11	0		61	0	@	111	0	+	161	0	@	211	8	@	261	0	@	311	1	@	361	0		411	0	-	461	0		511
0		12	0		62	0	@	112	0	+	162	2	@	212	4	@	262	0	@	312	0	@	362	0		412	0	-	462	0		512
0		13	0		63	0	@	113	0	+	163	5	@	213	6	@	263	0	@	313	1	@	363	0		413	1	-	463			
0		14	0		64	0	-	114	0	+	164	5	@	214	2	@	264	0	@	314	0	+	364	0	@	414	0	-	464			
0		15	0		65	0	-	115	0	+	165	1	@	215	1	@	265	0	@	315	0	+	365	0	@	415	0	-	465			
0		16	0		66	0	-	116	0	+	166	7	@	216	0	@	266	0	@	316	0		366	0	@	416	0	-	466			
0		17	0		67	0	-	117	0	+	167	5	@	217	1	+	267	0	@	317	0		367	0	@	417	0	-	467			
0		18	0		68	0	-	118	0	+	168	8	@	218	0	+	268	0	@	318	0		368	0	@	418	0	-	468			
0		19	0		69	0	-	119	0	+	169	8	@	219	0	+	269	0	@	319	0		369	0	@	419	0	-	469			
0		20	0	+	70	0	-	120	0	+	170	6	@	220	0	+	270	0	@	320	0		370	0	@	420	0	-	470			
0		21	0	+	71	1	-	121	0	+	171	19	@	221	0	+	271	0	@	321	0		371	0	@	421	0		471			
0		22	0	+	72	0	-	122	0	+	172	9	@	222	0	@	272	0	@	322	0		372	0	@	422	0		472			
0		23	0	+	73	0	-	123	0	+	173	19	@	223	0	@	273	1	@	323	0		373	0	@	423	1		473			
0		24	0	+	74	0	-	124	0	+	174	24	@	224	0	@	274	0	@	324	0		374	0	@	424	0		474			
0		25	0	+	75	0	-	125	0	+	175	25	@	225	0	@	275	0	@	325	0		375	0	@	425	1		475			
0		26	0	+	76	0	-	126	0	+	176	27	@	226	0	@	276	0	@	326	0		376	0	-	426	1		476			
0		27	0	+	77	0	-	127	0	+	177	39	@	227	0	@	277	0	@	327	1		377	1	@	427	2		477			
0		28	0	+	78	0	-	128	0	+	178	23	@	228	0	@	278	0	@	328	0		378	0	@	428	0		478			
0		29	0	+	79	0	-	129	0		179	39	@	229	0	@	279	0	@	329	1		379	0	@	429	1		479			
0		30	0	+	80	0	-	130	0		180	25	@	230	0	@	280	0	@	330	0		380	0	@	430	3		480			
0		31	0	+	81	0	-	131	0		181	27	@	231	0	@	281	0	@	331	0		381	1	@	431	6		481			
0		32	0	+	82	0	-	132	0		182	15	@	232	0	@	282	0	@	332	0		382	0	@	432	3		482			
0		33	0	+	83	0	-	133	0		183	27	@	233	0	@	283	0	@	333	1		383	1	@	433	5		483			
0		34	0	+	84	0	-	134	0	+	184	23	@	234	0	-	284	0	@	334	1		384	0	@	434	2		484			
0		35	0	+	85	0	@	135	1	+	185	26	@	235	0	@	285	0	@	335	1		385	0	@	435	1		485			
0		36	0	+	86	0	@	136	1	+	186	20	@	236	0	@	286	0	@	336	0		386	0	@	436	0		486			
0		37	0	+	87	0	@	137	0	+	187	22	@	237	0	@	287	0	@	337	1		387	1	@	437	1		487			
0		38	0	+	88	0	@	138	1	+	188	19	@	238	0	@	288	0	@	338	0		388	0	@	438	0		488			
0		39	0	+	89	0	@	139	0	+	189	11	@	239	1	@	289	0	@	339	1	@	389	0	@	439	1		489			
0		40	0	+	90	0	@	140	0	+	190	14	@	240	0	@	290	0	@	340	0	@	390	0	@	440	0		490			
0		41	0	+	91	0	@	141	0	+	191	22	@	241	0	@	291	0	@	341	2	@	391	1	@	441	0		491			
0		42	0	+	92	0	@	142	1	+	192	18	@	242	0	@	292	0	@	342	4	@	392	0	@	442	0		492			
0		43	0	+	93	0	@	143	0	+	193	8	@	243	0	@	293	0	@	343	2	@	393	0	@	443	0		493			
0		44	0	+	94	0	@	144	1	+	194	4	-	244	0	@	294	0	@	344	4	@	394	0	@	444	0		494			
0		45	0	+	95	0	+	145	0	+	195	13	@	245	0	@	295	0	@	345	3	@	395	1	@	445	0		495			
0		46	0	+	96	0	+	146	1	+	196	6	@	246	0	@	296	0	@	346	1	@	396	0	@	446	0		496			
0		47	0	+	97	0	+	147	1	+	197	7	@	247	0	@	297	0	@	347	3	@	397	0	@	447	0		497			
0		48	0	+	98	0	+	148	0	+	198	7	@	248	2	@	298	0	@	348	0	@	398	1	@	448	0		498			
0		49	1	+	99	0	+	149	0	@	199	3	@	249	0	@	299	0	@	349	1	@	399	1	@	449	0		499			
0		50	0	+	100	0	+	150	2	@	200	9	@	250	0	@	300	0	@	350	0	@	400	0	@	450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:25:33

Configuration : $DISK1:[ALP171.SAMPLE]H8MXV1AA_190760604H.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:21
Sample ID : H8MXV1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3545.57 keV End energy : 6541.16 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4890.70	606	0	112.08	231.27	211	43	2.02E-02	4.1	
2	0	5053.68	74	0	41.29	258.96	244	23	2.47E-03	11.6	
3	0	5842.83	21	0	29.49	393.13	389	12	7.01E-04	21.8	
4	0	6362.78	26	0	23.60	481.62	473	14	8.68E-04	19.6	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 14:25:35

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8MXV1AA_190760604H.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:21
Sample ID         : H8MXV1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                4
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    3       75.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-236	2.86Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-244	18.10Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8MXV1AA_190760604H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4890.70	211	254	606	617	-0.45		
5053.68	244	267	74	133	-6.86	69	-0.04
5842.83	389	401	21	21	0.00		
6362.78	473	487	26	27	-0.20		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MXW1AA

Detector: ALP114 1
Report Date: 19-Jul-06 04:07 PM
Acquire Date: 19-JUL-2006 06:04:23.60
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	0	5	-0.005	5423.2	151.1	312	332
TH-229	601	1	1.201	4845.3	280.7	233	270
TH-230	14	1	0.027	4687.7	136.8	214	232
TH-232	1	0	0.002	4013.0	152.9	126	146

End of Alpha Region Report
(Produced by ANAL Report)

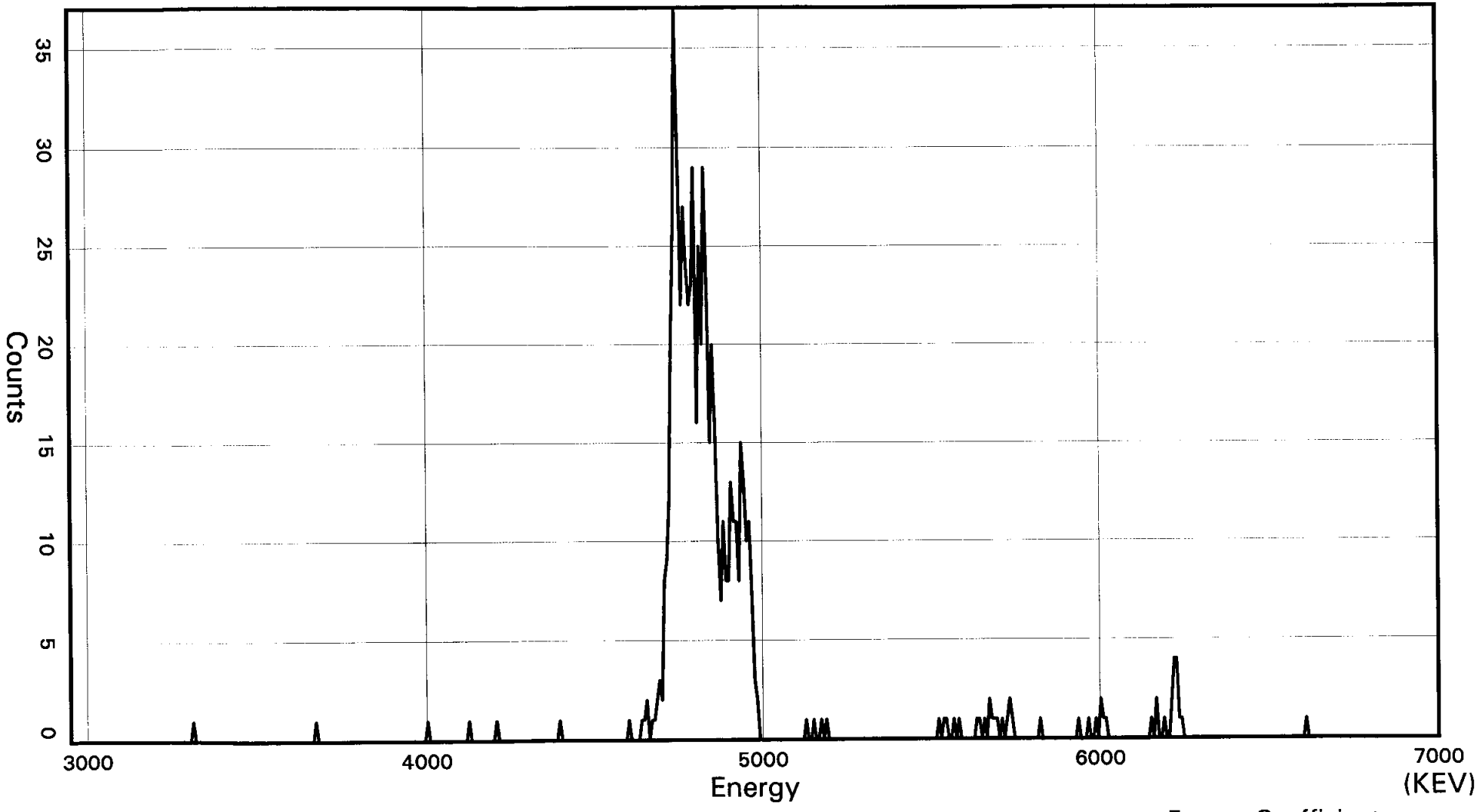
STL Richland WA.

TH BRC

Sample ID: H8MXW1AA

Detector ID: ALP114 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 06:04:23.60

Preset Live Time: 0 00:08:20.00

Elapsed Live Time: 0 08:20:04.00

Energy Coefficients:

Offset: 2.92767E+03

Slope: 7.71015E+00

Quadrature: -2.44061E-04

SAMPLE IDENTIITY: H8MXW1AA

TITLE : TH BRC

DETECTOR : ALP114 1
CONFIGURATION NAME : RDND06$DKA100:[ALP114.SAMPLE]H8MXW1AA_190760
604.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:05

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:23 CALIB DATE : 22-JUN-2006 09:29:59

PRESET LIVE TIME: 0 00:08:20 ELAPSED LIVE TIME: 0 08:20:04

OFFSET : 2927.67 keV CONSTANT FWHM : 7.40000 Channels
SLOPE : 7.71015 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.244061E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8MXW1AA
Detector: ALP114 1
Report Date: 19-Jul-06 02:24 PM
Acquire Date: 19-JUL-2006 06:04:23.60

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	15		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	20		252	0		302	0		352	1		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	16		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	10		254	0		304	0		354	2		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	7		255	0		305	1		355	1		405	0		455	0		505
0		6	0		56	0		106	1		156	0		206	11		256	0		306	1		356	1		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	8		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	8		258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	13		259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	11		260	0		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	11		261	0		311	1		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	8		262	0		312	1		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	15		263	0		313	1		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	13		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	10		265	0		315	1		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	11		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	1		167	0		217	7		267	0		317	1		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	3		268	0		318	2		368	0		418	0		468			
0		19	0		69	0		119	0		169	1		219	2		269	0		319	1		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	0		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	1		224	0		274	0		324	0		374	1		424	0		474			
0		25	0		75	0		125	0		175	1		225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	2		226	0		276	0		326	0		376	2		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	1		228	0		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	1		229	0		279	0		329	0		379	1		429	0		479			
0		30	0		80	0		130	0		180	2		230	0		280	0		330	1		380	0		430	0		480			
0		31	0		81	0		131	0		181	3		231	0		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	2		232	0		282	0		332	0		382	2		432	0		482			
0		33	0		83	0		133	0		183	8		233	0		283	0		333	0		383	4		433	0		483			
0		34	0		84	0		134	0		184	9		234	0		284	0		334	0		384	4		434	0		484			
0		35	0		85	0		135	0		185	12		235	0		285	0		335	0		385	1		435	1		485			
0		36	0		86	0		136	0		186	20		236	0		286	0		336	0		386	1		436	0		486			
0		37	0		87	0		137	0		187	26		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	37		238	1		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	30		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	1		140	0		190	22		240	0		290	1		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	27		241	1		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	1		192	24		242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	22		243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	23		244	1		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	29		245	0		295	0		345	1		395	0		445	0		495			
0		46	0		96	0		146	0		196	16		246	1		296	1		346	0		396	0		446	0		496			
0		47	1		97	0		147	0		197	25		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	20		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	29		249	0		299	0		349	1		399	0		449	0		499			

1	50	0	100	0	150	0	200	23	250	0	300	0	350	0	400	0	450	0	500

```
VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:24:28

Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H8MXW1AA_190760604.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:23
Sample ID         : H8MXW1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   0.0%
Start energy      :  2950.80 KEV         End energy       :  6811.29 KEV
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 14:24:29

```
Configuration     : RDND06$DKA100:[ALP114.SAMPLE]H8MXW1AA_190760604.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:23
Sample ID         : H8MXW1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP114               Detector geometry:
Elapsed live time: 0 08:20:04.00         Elapsed real time: 0 08:20:04.00   0.0%
Energy tolerance :    80.00 KEV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

**** There are no nuclides meeting summary criteria ****

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

```
  Error Report  (Date: 19-Jul-06  02:24 PM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MXX1AA

Detector: ALP116 1
Report Date: 19-Jul-06 04:08 PM
Acquire Date: 19-JUL-2006 06:04:28.62
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	3	0.005	5423.2	149.6	326	346
TH-229	497	0	0.994	4845.3	352.8	249	296
TH-230	1	0	0.002	4687.7	173.0	225	248
TH-232	0	0	0.000	4013.0	151.2	139	159

End of Alpha Region Report
(Produced by ANAL Report)

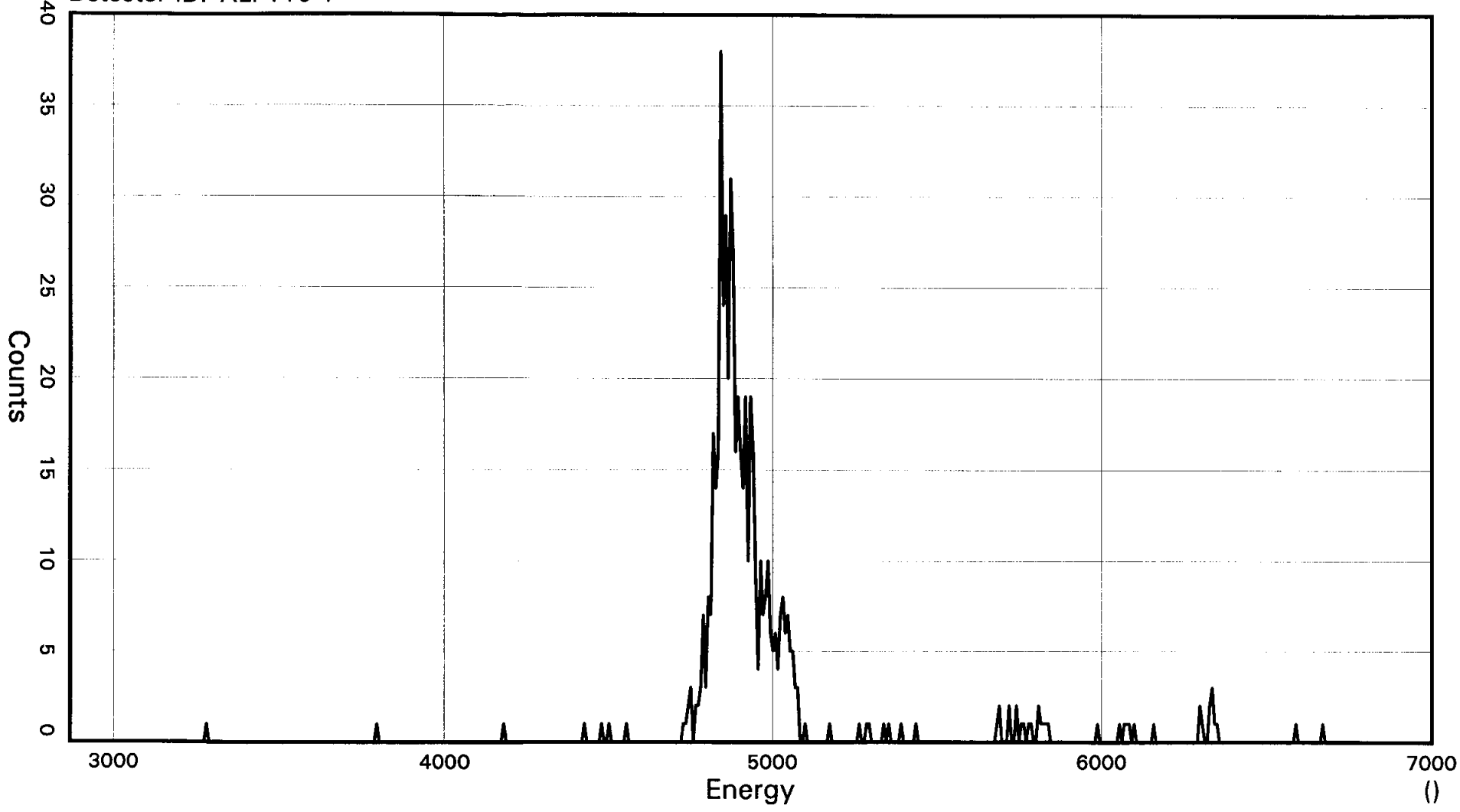
STL Richland WA.

TH BRC

Sample ID: H8MXX1AA

Detector ID: ALP116 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 06:04:28.62

Preset Live Time: 0 00:08:20.00

Elapsed Live Time: 0 08:20:08.00

Energy Coefficients:

Offset: 2.84555E+03

Slope: 7.62237E+00

Quadrature: -2.12519E-04

SAMPLE IDENTIITY: H8MXX1AA

TITLE : TH BRC

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06$DKA100:[ALP116.SAMPLE]H8MXX1AA_190760
604.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:09

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:28 CALIB DATE : 22-JUN-2006 09:30:10

PRESET LIVE TIME: 0 00:08:20 ELAPSED LIVE TIME: 0 08:20:08

OFFSET : 2845.55 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.62237 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.212519E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8MXX1AA
Detector: ALP116 1
Report Date: 19-Jul-06 02:24 PM
Acquire Date: 19-JUL-2006 06:04:28.62

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	2		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	3		252	0		302	0		352	0		402	0		452	0		502
	0	3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
	0	4	0		54	0		104	0		154	0		204	2		254	0		304	0		354	0		404	0		454	0		504
	0	5	0		55	0		105	0		155	0		205	2		255	0		305	0		355	0		405	0		455	0		505
	0	6	0		56	0		106	0		156	0		206	3		256	0		306	0		356	0		406	0		456	0		506
	0	7	1		57	0		107	0		157	0		207	7		257	0		307	0		357	0		407	0		457	0		507
	0	8	0		58	0		108	0		158	0		208	3		258	1		308	0		358	0		408	0		458	0		508
	0	9	0		59	0		109	0		159	1		209	8		259	0		309	0		359	0		409	2		459	1		509
	0	10	0		60	0		110	0		160	0		210	7		260	0		310	0		360	0		410	1		460	0		510
	0	11	0		61	0		111	0		161	0		211	17		261	0		311	0		361	0		411	0		461	0		511
	0	12	0		62	0		112	0		162	0		212	14		262	0		312	0		362	0		412	0		462	0		512
	0	13	0		63	0		113	0		163	0		213	16		263	0		313	0		363	0		413	2		463			
	0	14	0		64	0		114	0		164	0		214	38		264	0		314	0		364	0		414	3		464			
	0	15	0		65	0		115	0		165	0		215	24		265	0		315	0		365	0		415	1		465			
	0	16	0		66	0		116	0		166	1		216	29		266	0		316	0		366	0		416	1		466			
	0	17	0		67	0		117	0		167	0		217	20		267	0		317	0		367	1		417	0		467			
	0	18	0		68	0		118	0		168	0		218	31		268	0		318	0		368	0		418	0		468			
	0	19	0		69	0		119	0		169	1		219	27		269	0		319	0		369	0		419	0		469			
	0	20	0		70	0		120	0		170	0		220	16		270	1		320	0		370	0		420	0		470			
	0	21	0		71	0		121	0		171	0		221	19		271	0		321	0		371	0		421	0		471			
	0	22	0		72	0		122	0		172	0		222	16		272	0		322	0		372	0		422	0		472			
	0	23	0		73	0		123	0		173	0		223	14		273	1		323	0		373	0		423	0		473			
	0	24	0		74	0		124	0		174	0		224	19		274	1		324	0		374	0		424	0		474			
	0	25	0		75	1		125	0		175	0		225	10		275	0		325	0		375	0		425	0		475			
	0	26	0		76	0		126	1		176	1		226	19		276	0		326	1		376	1		426	0		476			
	0	27	0		77	0		127	0		177	0		227	16		277	0		327	2		377	0		427	0		477			
	0	28	0		78	0		128	0		178	0		228	9		278	0		328	0		378	1		428	0		478			
	0	29	0		79	0		129	0		179	0		229	4		279	0		329	0		379	1		429	0		479			
	0	30	0		80	0		130	0		180	0		230	10		280	1		330	0		380	1		430	0		480			
	0	31	0		81	0		131	0		181	0		231	7		281	0		331	2		381	0		431	0		481			
	0	32	0		82	0		132	0		182	0		232	8		282	1		332	0		382	1		432	0		482			
	0	33	0		83	0		133	0		183	0		233	10		283	0		333	0		383	0		433	0		483			
	0	34	0		84	0		134	0		184	0		234	6		284	0		334	2		384	0		434	0		484			
	0	35	0		85	0		135	0		185	0		235	5		285	0		335	0		385	0		435	0		485			
	0	36	0		86	0		136	0		186	0		236	6		286	0		336	1		386	0		436	0		486			
	0	37	0		87	0		137	0		187	0		237	4		287	1		337	1		387	0		437	0		487			
	0	38	0		88	0		138	0		188	0		238	7		288	0		338	0		388	0		438	0		488			
	0	39	0		89	0		139	0		189	0		239	8		289	0		339	1		389	0		439	0		489			
	0	40	0		90	0		140	0		190	0		240	6		290	0		340	1		390	1		440	0		490			
	0	41	0		91	0		141	0		191	0		241	7		291	0		341	0		391	0		441	0		491			
	0	42	0		92	0		142	0		192	0		242	5		292	0		342	0		392	0		442	0		492			
	0	43	0		93	0		143	0		193	0		243	5		293	1		343	2		393	0		443	0		493			
	0	44	0		94	0		144	0		194	0		244	3		294	0		344	1		394	0		444	0		494			
	0	45	0		95	0		145	0		195	0		245	3		295	0		345	1		395	0		445	0		495			
	0	46	0		96	0		146	0		196	0		246	0		296	0		346	1		396	0		446	0		496			
	0	47	0		97	0		147	0		197	0		247	0		297	0		347	1		397	0		447	0		497			
	0	48	0		98	0		148	0		198	0		248	1		298	0		348	0		398	0		448	1		498			
	0	49	0		99	0		149	0		199	1		249	0		299	0		349	0		399	0		449	0		499			

0 50 0 100 0 150 0 200 1 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:24:39

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H8MXX1AA_190760604.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:28
Sample ID         : H8MXX1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Start energy      :  2868.42             End energy       :  6692.50
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 14:24:41

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H8MXX1AA_190760604.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:28
Sample ID         : H8MXX1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

**** There are no nuclides meeting summary criteria ****

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

```
  Error Report  (Date: 19-Jul-06  02:24 PM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

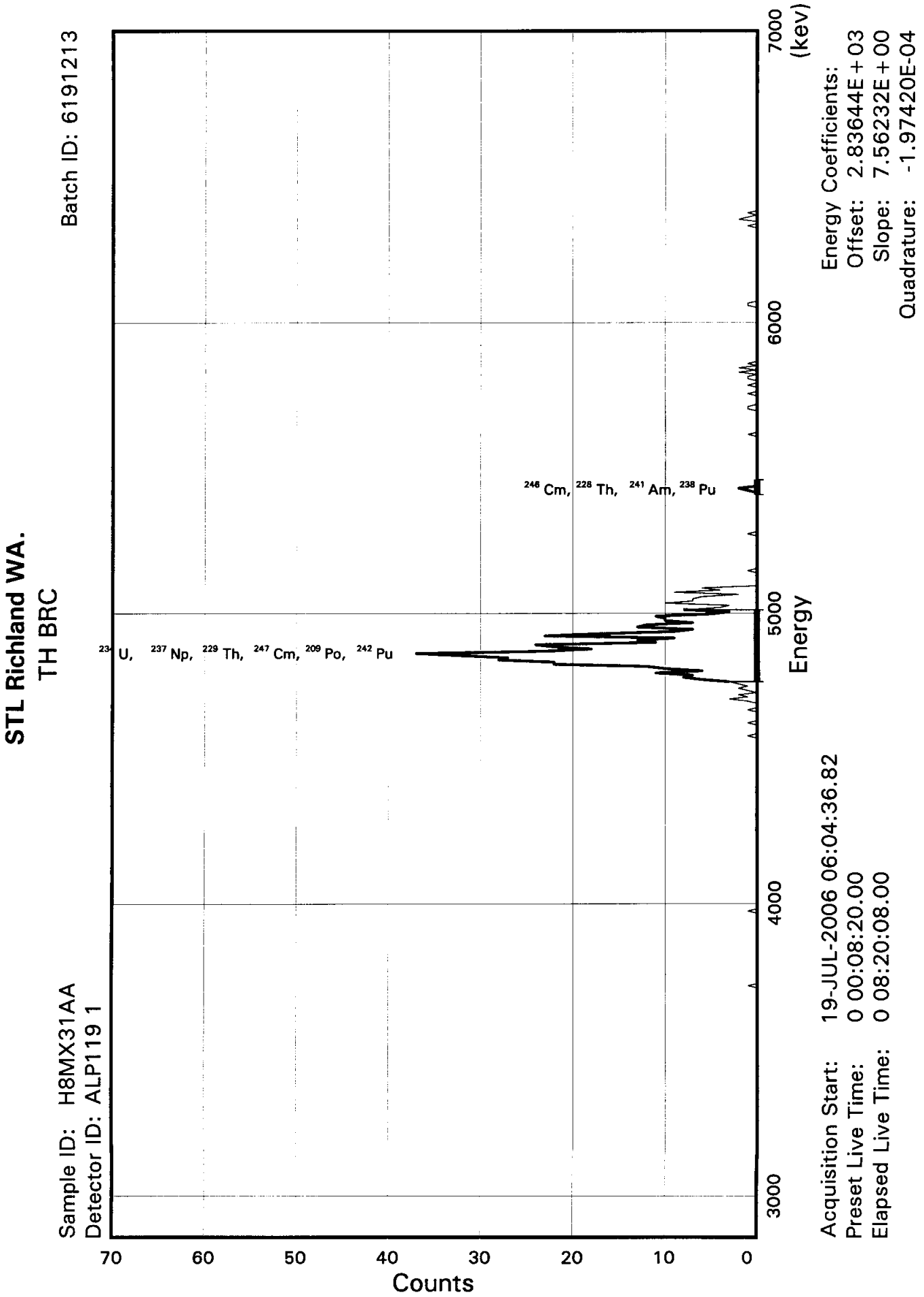
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MX31AA

Detector: ALP119 1
Report Date: 19-Jul-06 04:09 PM
Acquire Date: 19-JUL-2006 06:04:36.82
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	2	0.004	5423.2	148.6	330	350
TH-229	550	1	1.099	4845.3	365.2	253	302
TH-230	10	0	0.020	4687.7	156.8	231	252
TH-232	1	0	0.002	4013.0	150.1	141	161

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8MX31AA
Detector ID: ALP119 1
23 U, 237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
246 Cm, 228 Th, 241 Am, 238 Pu
Counts
70
60
50
40
30
20
10
0
Energy
3000
4000
5000
6000
7000
(kev)
Acquisition Start: 19-JUL-2006 06:04:36.82
Preset Live Time: 0 00:08:20.00
Elapsed Live Time: 0 08:20:08.00
Energy Coefficients:
Offset: 2.83644E+03
Slope: 7.56232E+00
Quadrature: -1.97420E-04

SAMPLE IDENTIITY: H8MX31AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H8MX31AA_190760
604.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:44

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:36 CALIB DATE : 22-JUN-2006 09:30:26

PRESET LIVE TIME: 0 00:08:20 ELAPSED LIVE TIME: 0 08:20:08

OFFSET : 2836.44 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.56232 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.197420E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MX31AA

Detector: ALP119 1
Report Date: 19-Jul-06 02:24 PM
Acquire Date: 19-JUL-2006 06:04:36.82
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-9.995	5133.9	245.5	293	326	0.00	0.00	M
PO-209	491	0	0	0.982	4902.2	246.0	257	290	0.00	0.00	P
PO-210	-9999	-9999	0	-9.995	5323.4	245.2	319	352	0.00	0.00	M I
AC-227	-9999	-9999	0	-9.995	6057.0	243.9	418	451	0.00	0.00	M
TH-227	-9999	-9999	0	-9.995	6057.0	243.9	418	451	0.00	0.00	M
TH-228	4	2	0	0.006	5442.2	52.0	343	350	0.00	0.00	P
TH-229	491	0	0	0.982	4864.3	246.0	257	290	0.00	0.00	P
TH-230	-9999	-9999	0	-9.995	4706.7	246.3	236	269	0.00	0.00	I
TH-232	1	0	0	0.002	4032.0	247.4	146	179	0.00	0.00	S
U-232	-9999	-9999	0	-9.995	5339.2	245.2	321	354	0.00	0.00	M I
U-234	491	0	0	0.982	4793.6	246.0	257	290	0.00	0.00	P
U-235	0	0	0	0.000	4416.8	246.8	197	230	0.00	0.00	S
PU-236	7	11	9	0.002	5786.7	244.4	381	414	0.00	0.00	S
NP-237	491	0	0	0.982	4807.0	246.0	257	290	0.00	0.00	P
PU-238	4	2	0	0.006	5518.1	52.0	343	350	0.00	0.00	P
U-238	-9999	-9999	0	-9.995	4217.0	247.1	170	203	0.00	0.00	M
PU-239	-9999	-9999	0	-9.995	5175.6	245.4	299	332	0.00	0.00	M
AM-241	4	2	0	0.006	5504.6	52.0	343	350	0.00	0.00	P
AM-242M	-9999	-9999	0	-9.995	5225.8	245.4	306	339	0.00	0.00	M
CM-242	-9999	-9999	0	-9.995	6131.8	243.8	428	461	0.00	0.00	M
PU-242	491	0	0	0.982	4919.5	246.0	257	290	0.00	0.00	P
AM-243	-9999	-9999	0	-9.995	5294.3	245.2	315	348	0.00	0.00	M I
CM-244	-9999	-9999	0	-9.995	5823.9	244.3	386	419	0.00	0.00	M
CM-246	4	2	0	0.006	5405.5	52.0	343	350	0.00	0.00	P
CM-247	491	0	0	0.982	4889.4	246.0	257	290	0.00	0.00	P
CM-248	-9999	-9999	0	-9.995	5097.6	245.6	288	321	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MX31AA
Detector: ALP119 1
Report Date: 19-Jul-06 02:24 PM
Acquire Date: 19-JUL-2006 06:04:36.82

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	1	+	151	0	@	201	2	+	251	0	@	301	0	@	351	0	@	401	0	@	451
		2	0		52	0		102	0	+	152	0	@	202	0	+	252	0	@	302	0	@	352	2	@	402	0	-	452
0		3	0		53	0		103	0	+	153	0	@	203	1	+	253	0	@	303	0	-	353	0	@	403	0	-	453
0		4	0		54	0		104	0	+	154	0	+	204	2	+	254	0	@	304	0	-	354	1	@	404	0	-	454
0		5	0		55	0		105	0	+	155	0	+	205	1	+	255	0	@	305	0		355	0	@	405	0	-	455
0		6	0		56	0		106	0	+	156	0	+	206	2	+	256	0	@	306	0		356	0	@	406	0	-	456
0		7	0		57	0		107	0	+	157	0	+	207	3	@	257	0	@	307	0		357	0	@	407	0	-	457
0		8	0		58	0		108	0	+	158	0	+	208	6	@	258	1	@	308	0		358	0	@	408	0	-	458
0		9	0		59	0		109	0	+	159	0	+	209	8	@	259	0	@	309	0		359	0	@	409	0	-	459
0		10	0		60	0		110	0	+	160	0	+	210	7	@	260	0	@	310	0		360	0	@	410	0	-	460
0		11	0		61	0		111	0	+	161	0	+	211	11	@	261	0	@	311	0		361	0	@	411	0	-	461
0		12	0		62	0		112	0	+	162	0	+	212	6	@	262	0	@	312	0		362	0	@	412	0		462
0		13	0		63	0		113	0	+	163	0	+	213	10	@	263	0	@	313	0		363	0	@	413	0		463
0		14	0		64	0		114	0	+	164	0	+	214	12	@	264	0	@	314	0		364	0	@	414	0		464
0		15	0		65	0		115	0	+	165	0	+	215	22	@	265	0	@	315	0		365	0	-	415	0		465
0		16	0		66	0		116	0	+	166	0	+	216	22	@	266	0	@	316	0		366	0	-	416	0		466
0		17	0		67	1		117	0	+	167	0	+	217	28	@	267	0	@	317	0		367	0	-	417	0		467
0		18	0		68	0		118	0	+	168	0	+	218	27	@	268	0	@	318	0		368	0	@	418	1		468
0		19	0		69	0		119	0	+	169	0	+	219	32	@	269	0	@	319	0		369	0	@	419	0		469
0		20	0		70	0		120	0	@	170	0	+	220	37	@	270	0	@	320	0		370	0	@	420	0		470
0		21	0		71	0		121	0	@	171	0	+	221	23	@	271	0	@	321	1		371	0	@	421	2		471
0		22	0		72	0		122	0	@	172	0	+	222	18	@	272	0	@	322	0		372	0	@	422	1		472
0		23	0		73	0		123	0	@	173	0	+	223	22	@	273	0	@	323	0		373	0	@	423	0		473
0		24	0		74	0		124	0	@	174	0	+	224	24	@	274	0	@	324	0		374	0	@	424	1		474
0		25	0		75	0		125	0	@	175	0	+	225	11	@	275	1	@	325	0		375	0	@	425	0		475
0		26	0		76	0		126	0	@	176	0	+	226	13	@	276	0	@	326	0		376	0	@	426	0		476
0		27	0		77	0		127	0	@	177	0	+	227	9	@	277	0	@	327	0		377	0	@	427	0		477
0		28	0		78	0		128	0	@	178	0	+	228	23	@	278	0	@	328	0		378	0	-	428	0		478
0		29	0		79	0		129	0	@	179	0	+	229	17	@	279	0	@	329	0		379	0	@	429	0		479
0		30	0		80	0		130	0	-	180	0	+	230	9	@	280	0	@	330	0		380	0	@	430	0		480
0		31	0		81	0		131	0	-	181	0		231	7	@	281	0	@	331	0	+	381	1	@	431	0		481
0		32	0		82	0		132	0	-	182	1		232	13	@	282	0	@	332	0	+	382	1	@	432	0		482
0		33	0		83	0		133	0	-	183	0		233	12	@	283	0	@	333	1	+	383	0	@	433	0		483
0		34	0		84	0		134	0	-	184	0		234	7	@	284	0	@	334	1	+	384	0	@	434	0		484
0		35	0		85	0		135	0	-	185	0		235	10	@	285	0	@	335	0	+	385	0	@	435	0		485
0		36	0		86	0		136	0	-	186	0	+	236	10	@	286	0	@	336	0	@	386	0	@	436	0		486
0		37	0		87	0		137	0	-	187	0	+	237	11	@	287	0	@	337	0	@	387	0	@	437	0		487
0		38	0		88	0		138	0	-	188	1	+	238	5	-	288	0	@	338	0	@	388	0	@	438	0		488
0		39	0		89	0		139	0	-	189	0	+	239	3	@	289	0	@	339	0	@	389	0	@	439	0		489
0		40	0		90	0		140	0	-	190	0	+	240	8	-	290	0	@	340	1	@	390	0	@	440	0		490
0		41	0		91	0		141	0	-	191	0	+	241	4	-	291	0	@	341	0	@	391	0	@	441	0		491
0		42	0		92	0		142	0	-	192	0	+	242	3	-	292	0	@	342	0	@	392	0	@	442	0		492
0		43	0		93	0		143	0	-	193	0	+	243	10	@	293	0	-	343	0	@	393	0	@	443	0		493
0		44	0		94	0		144	0	-	194	1	+	244	7	@	294	0	@	344	1	@	394	0	@	444	0		494
0		45	0		95	0		145	0	-	195	0	+	245	7	@	295	1	@	345	0	@	395	0	@	445	0		495
0		46	0		96	0	+	146	0	-	196	0	+	246	6	@	296	2	@	346	0	@	396	0	@	446	0		496
0		47	0		97	0	+	147	0	@	197	0	+	247	2	@	297	0	@	347	1	@	397	0	@	447	0		497
0		48	0		98	0	+	148	0	@	198	1	+	248	9	@	298	0	@	348	1	@	398	0	@	448	0		498
0		49	0		99	0	+	149	0	@	199	3	+	249	4	@	299	0	@	349	0	@	399	0	@	449	0		499
0		50	0		100	0	+	150	0	@	200	1	+	250	6	@	300	0	@	350	2	@	400	0	@	450	0		500

VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:24:51

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H8MX31AA_190760604.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:36
Sample ID         : H8MX31AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Start energy      :  2859.13 kev         End energy       :  6656.60 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4864.33	491	0	90.75	270.06	257	33	1.64E-02	4.5	
2	0	5425.66	4	0	30.25	345.50	343	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 14:24:53

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H8MX31AA_190760604.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:36
Sample ID         : H8MX31AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    2      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-228	1.91Y	1.04	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-246	8500.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-238	87.74Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
AM-241	432.20Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H8MX31AA_190760604.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4864.33	257	290	491	486	0.23		
5425.65	343	350	4	3	0.50		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MX61AA

Detector: ALP120 1
Report Date: 19-Jul-06 04:09 PM
Acquire Date: 19-JUL-2006 06:04:40.60
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	4	0.000	5423.2	147.7	332	352
TH-229	142	1	0.283	4845.3	302.9	254	295
TH-230	5	1	0.009	4687.7	147.8	232	252
TH-232	0	0	0.000	4013.0	147.8	141	161

End of Alpha Region Report
(Produced by ANAL Report)

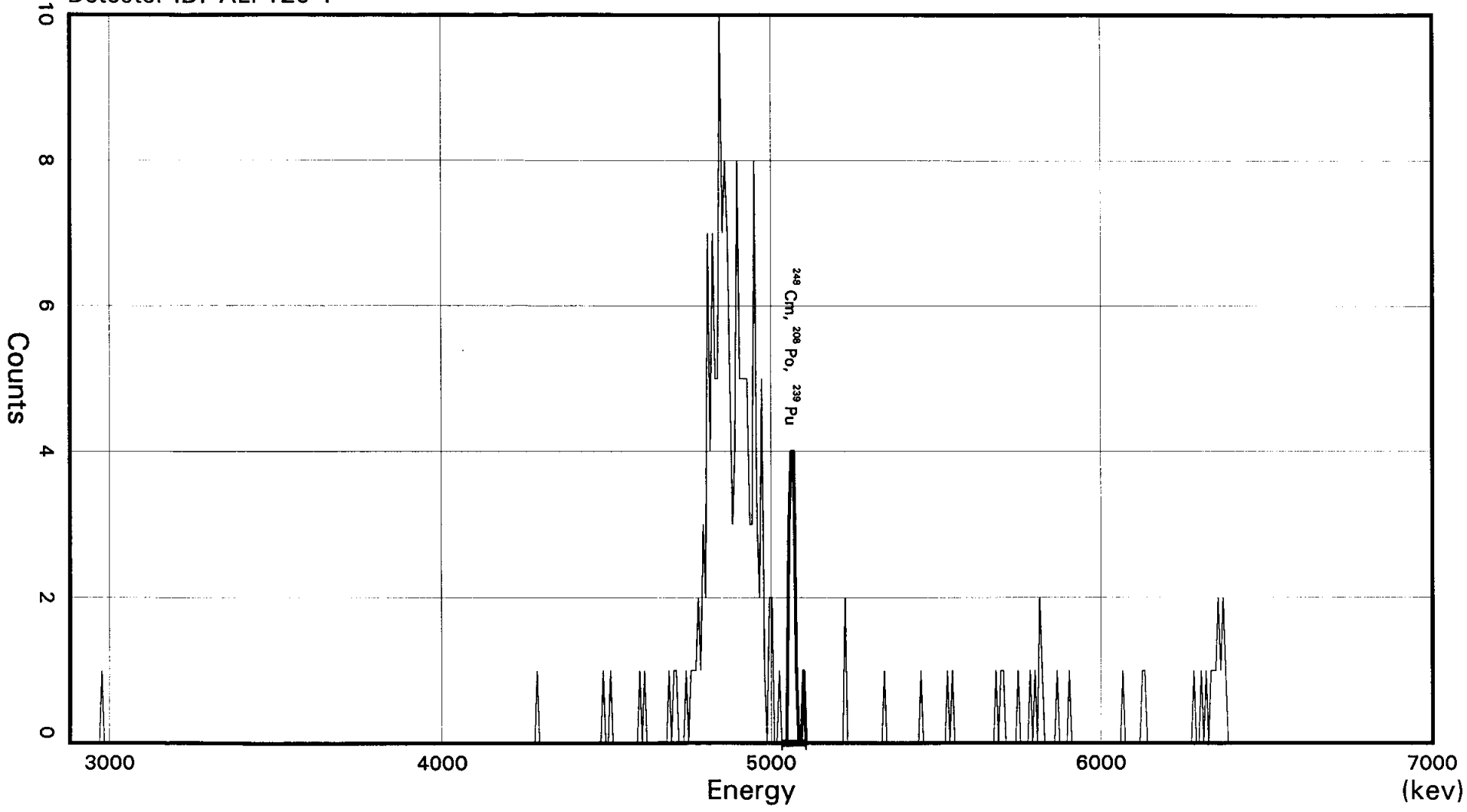
STL Richland WA.

TH BRC

Sample ID: H8MX61AA

Detector ID: ALP120 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 06:04:40.60

Preset Live Time: 0 00:08:20.00

Elapsed Live Time: 0 08:20:05.00

Energy Coefficients:

Offset: 2.85851E+03

Slope: 7.39562E+00

Quadrature: -1.24203E-05

SAMPLE IDENTIITY: H8MX61AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H8MX61AA_190760
604.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:46

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 06:04:40 CALIB DATE : 22-JUN-2006 09:30:33

PRESET LIVE TIME: 0 00:08:20 ELAPSED LIVE TIME: 0 08:20:05

OFFSET : 2858.51 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 7.39562 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.124203E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8MX61AA
Detector: ALP120 1
Report Date: 19-Jul-06 02:24 PM
Acquire Date: 19-JUL-2006 06:04:40.60

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	1		251	0		301	1		351	1		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	1		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	1		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	1		257	0		307	0		357	1		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	1		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	1		259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	2		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	1		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	3		262	0		312	1		362	1		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	2		263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	7		264	0		314	1		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	4		265	0		315	0		365	0		415	0		465			
1		16	0		66	0		116	0		166	0		216	7		266	0		316	0		366	0		416	1		466			
0		17	0		67	0		117	0		167	0		217	5		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	5		268	0		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	10		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	7		270	2		320	0		370	0		420	1		470			
0		21	0		71	0		121	0		171	1		221	8		271	0		321	0		371	0		421	1		471			
0		22	0		72	0		122	0		172	0		222	7		272	0		322	0		372	0		422	1		472			
0		23	0		73	0		123	0		173	0		223	5		273	0		323	0		373	0		423	2		473			
0		24	0		74	0		124	0		174	1		224	3		274	0		324	0		374	0		424	1		474			
0		25	0		75	0		125	0		175	0		225	4		275	0		325	0		375	0		425	2		475			
0		26	0		76	0		126	0		176	0		226	8		276	0		326	0		376	0		426	1		476			
0		27	0		77	0		127	0		177	0		227	5		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	5		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	5		279	0		329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	5		280	0		330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	3		281	0		331	0		381	0		431	0		481			
0		32	0		82	0		132	0		182	0		232	3		282	0		332	1		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	8		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	3		284	0		334	1		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	2		285	0		335	1		385	0		435	0		485			
0		36	0		86	0		136	0		186	1		236	5		286	1		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	1		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	1		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	2		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	2		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	1		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	1		442	0		492			
0		43	0		93	0		143	0		193	0		243	1		293	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	1		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	1		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	3		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	1		248	4		298	0		348	1		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	4		299	0		349	0		399	0		449	0		499			

0 50 0 100 0 150 0 200 1 250 1 300 0 350 2 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 19-JUL-2006 14:24:48

Configuration : RDND06$DKA100:[ALP120.SAMPLE]H8MX61AA_190760604.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:40
Sample ID : H8MX61AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP120 Detector geometry:
Elapsed live time: 0 08:20:05.00 Elapsed real time: 0 08:20:05.00 0.0%
Start energy : 2880.70 kev End energy : 6641.81 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5061.92	14	0	36.98	298.08	294	10	4.67E-04	26.7	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 14:24:50

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H8MX61AA_190760604.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 06:04:40
Sample ID         : H8MX61AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:05.00         Elapsed real time: 0 08:20:05.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PU-239	24110.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 19-Jul-06  02:24 PM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

7/20
0047

C.R. Technician: DH
Date Counted: 7/19/06
C.R. Analyst: CP
Date Analyzed: 7/28/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BPC 6/12/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6191213

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)	Th-232 (4010 KeV) (9)		
H8MX81AA		10		0	See Alpha Analysis Report for ROI Information			171	
H8M0K1AA		10		0	See Alpha Analysis Report for ROI Information			172	
H8M0Q1AA		10		0	See Alpha Analysis Report for ROI Information			173	
H8M0V1AA		10		0	See Alpha Analysis Report for ROI Information			174	
H8M051AA		10		0	See Alpha Analysis Report for ROI Information			175	
H8M081AA		10		0	See Alpha Analysis Report for ROI Information			176	
H8M1C1AA		10		0	See Alpha Analysis Report for ROI Information			177	
H8M1E1AA		10		0	See Alpha Analysis Report for ROI Information			178	
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Form No: RC-012, 10/02, Rev 9

Approved by: S

Date: 7/28/06

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8MX81AA

Detector: ALP171 1
Report Date: 20-Jul-06 05:49 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	6	0.002	5423.2	116.4	317	337
TH-229	418	4	0.833	4845.3	378.1	217	282
TH-230	12	1	0.023	4687.7	116.3	190	210
TH-232	1	0	0.002	4013.0	116.2	74	94

End of Alpha Region Report
(Produced by ANAL Report)

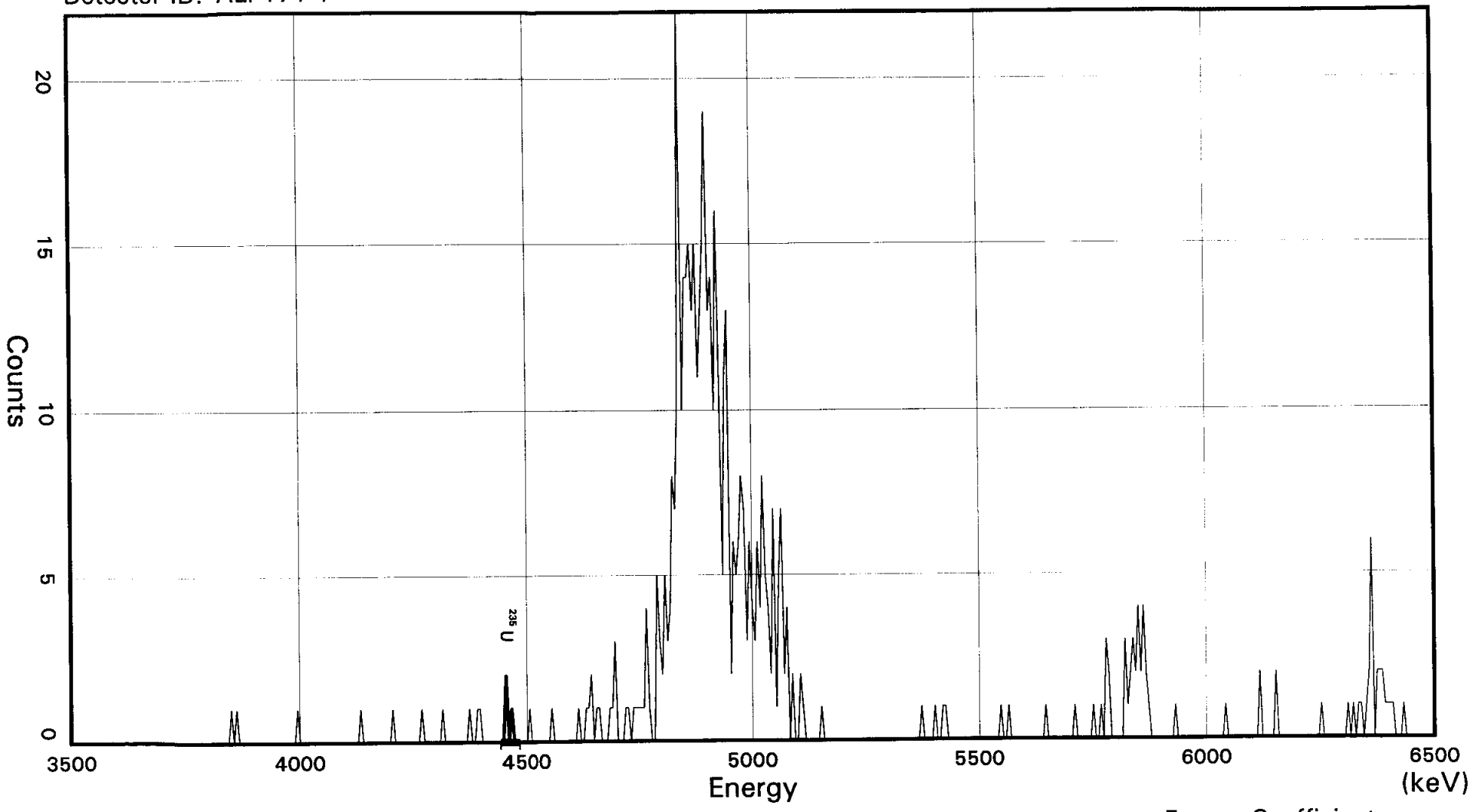
STL Richland WA.

TH BRC

Sample ID: H8MX81AA

Detector ID: ALP171 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:26:11.58

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49560E+03

Slope: 5.80529E+00

Quadrature: 2.24502E-05

SAMPLE IDENTIITY: H8MX81AA

TITLE : TH BRC

DETECTOR : ALP171 1
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8MX81AA_190761626A.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:08:58

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3495.60 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 5.80529 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 2.245020E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8MX81AA
Detector: ALP171 1
Report Date: 20-Jul-06 12:46 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0	101		1	151		1	201		2	251		0	301		0	351		1	401		2	451		1	501
		2		0	52		0	102		0	152		0	202		6	252		0	302		0	352		2	402		0	452		0	502
	0	3		0	53		0	103		0	153		0	203		5	253		0	303		1	353		3	403		0	453		0	503
	0	4		0	54		0	104		1	154		0	204		6	254		0	304		0	354		2	404		0	454		0	504
	0	5		0	55		0	105		1	155		1	205		8	255		0	305		0	355		4	405		0	455		1	505
	0	6		0	56		0	106		0	156		1	206		7	256		0	306		1	356		2	406		0	456		0	506
	0	7		0	57		0	107		0	157		3	207		3	257		0	307		0	357		4	407		2	457		0	507
	0	8		0	58		0	108		0	158		0	208		6	258		0	308		0	358		2	408		0	458		0	508
	0	9		0	59		0	109		0	159		0	209		4	259		0	309		0	359		1	409		0	459		0	509
	0	10		0	60		1	110		0	160		0	210		3	260		0	310		0	360		0	410		0	460		0	510
	0	11		1	61		0	111		0	161		1	211		6	261		0	311		0	361		0	411		0	461		0	511
	0	12		0	62		0	112		0	162		1	212		4	262		0	312		0	362		0	412		0	462		0	512
	0	13		1	63		0	113		0	163		0	213		8	263		0	313		0	363		0	413		0	463			
	0	14		0	64		0	114		0	164		1	214		5	264		0	314		0	364		0	414		0	464			
	0	15		0	65		0	115		2	165		1	215		4	265		0	315		0	365		0	415		0	465			
	0	16		0	66		0	116		0	166		1	216		2	266		0	316		0	366		0	416		0	466			
	0	17		0	67		0	117		1	167		1	217		7	267		0	317		0	367		0	417		0	467			
	0	18		0	68		0	118		0	168		1	218		1	268		0	318		0	368		0	418		0	468			
	0	19		0	69		0	119		0	169		4	219		5	269		0	319		0	369		1	419		0	469			
	0	20		0	70		0	120		0	170		1	220		7	270		0	320		1	370		0	420		0	470			
	0	21		0	71		0	121		0	171		0	221		2	271		0	321		0	371		0	421		0	471			
	0	22		0	72		1	122		0	172		0	222		4	272		0	322		0	372		0	422		0	472			
	0	23		0	73		0	123		0	173		5	223		0	273		1	323		0	373		0	423		0	473			
	0	24		0	74		0	124		1	174		3	224		2	274		0	324		0	374		0	424		1	474			
	0	25		0	75		0	125		0	175		2	225		0	275		0	325		0	375		0	425		0	475			
	0	26		0	76		0	126		0	176		5	226		0	276		0	326		0	376		0	426		0	476			
	0	27		0	77		0	127		0	177		3	227		2	277		0	327		0	377		0	427		0	477			
	0	28		0	78		0	128		0	178		4	228		1	278		1	328		0	378		0	428		0	478			
	0	29		0	79		0	129		0	179		8	229		0	279		0	329		0	379		0	429		0	479			
	0	30		0	80		0	130		0	180		7	230		0	280		0	330		0	380		0	430		0	480			
	0	31		0	81		0	131		0	181		10	231		0	281		1	331		1	381		0	431		0	481			
	0	32		0	82		0	132		0	182		22	232		0	282		1	332		0	382		0	432		0	482			
	0	33		0	83		1	133		1	183		10	233		0	283		0	333		0	383		0	433		0	483			
	0	34		0	84		0	134		0	184		14	234		0	284		0	334		0	384		0	434		1	484			
	0	35		0	85		0	135		0	185		14	235		1	285		0	335		0	385		0	435		0	485			
	0	36		1	86		0	136		0	186		15	236		0	286		0	336		0	386		0	436		1	486			
	0	37		0	87		0	137		0	187		13	237		0	287		0	337		0	387		0	437		0	487			
	0	38		0	88		0	138		0	188		15	238		0	288		0	338		1	388		1	438		1	488			
	0	39		0	89		0	139		0	189		11	239		0	289		0	339		0	389		0	439		1	489			
	0	40		0	90		0	140		0	190		13	240		0	290		0	340		0	390		0	440		0	490			
	0	41		0	91		1	141		0	191		15	241		0	291		0	341		1	391		0	441		1	491			
	0	42		0	92		0	142		0	192		19	242		0	292		0	342		0	392		0	442		2	492			
	0	43		0	93		0	143		1	193		13	243		0	293		0	343		3	393		0	443		6	493			
	0	44		0	94		0	144		0	194		14	244		0	294		0	344		2	394		0	444		0	494			
	0	45		0	95		0	145		0	195		10	245		0	295		0	345		0	395		0	445		2	495			
	0	46		0	96		0	146		1	196		16	246		0	296		0	346		0	396		0	446		2	496			
	0	47		0	97		0	147		1	197		11	247		0	297		0	347		0	397		0	447		2	497			
	0	48		0	98		0	148		2	198		5	248		0	298		0	348		0	398		0	448		1	498			
	0	49		0	99		0	149		0	199		11	249		0	299		0	349		0	399		0	449		1	499			

0	50	0	100	0	150	1	200	13	250	0	300	0	350	3	400	0	450	1	500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:46:44

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8MX81AA_190761626A.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8MX81AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3513.01 keV         End energy       :  6473.79 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4456.99	4	0	23.22	165.50	163	7	1.33E-04	50.0	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:46:48

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8MX81AA_190761626A.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8MX81AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-235	7.08E+08Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 20-Jul-06  12:46 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

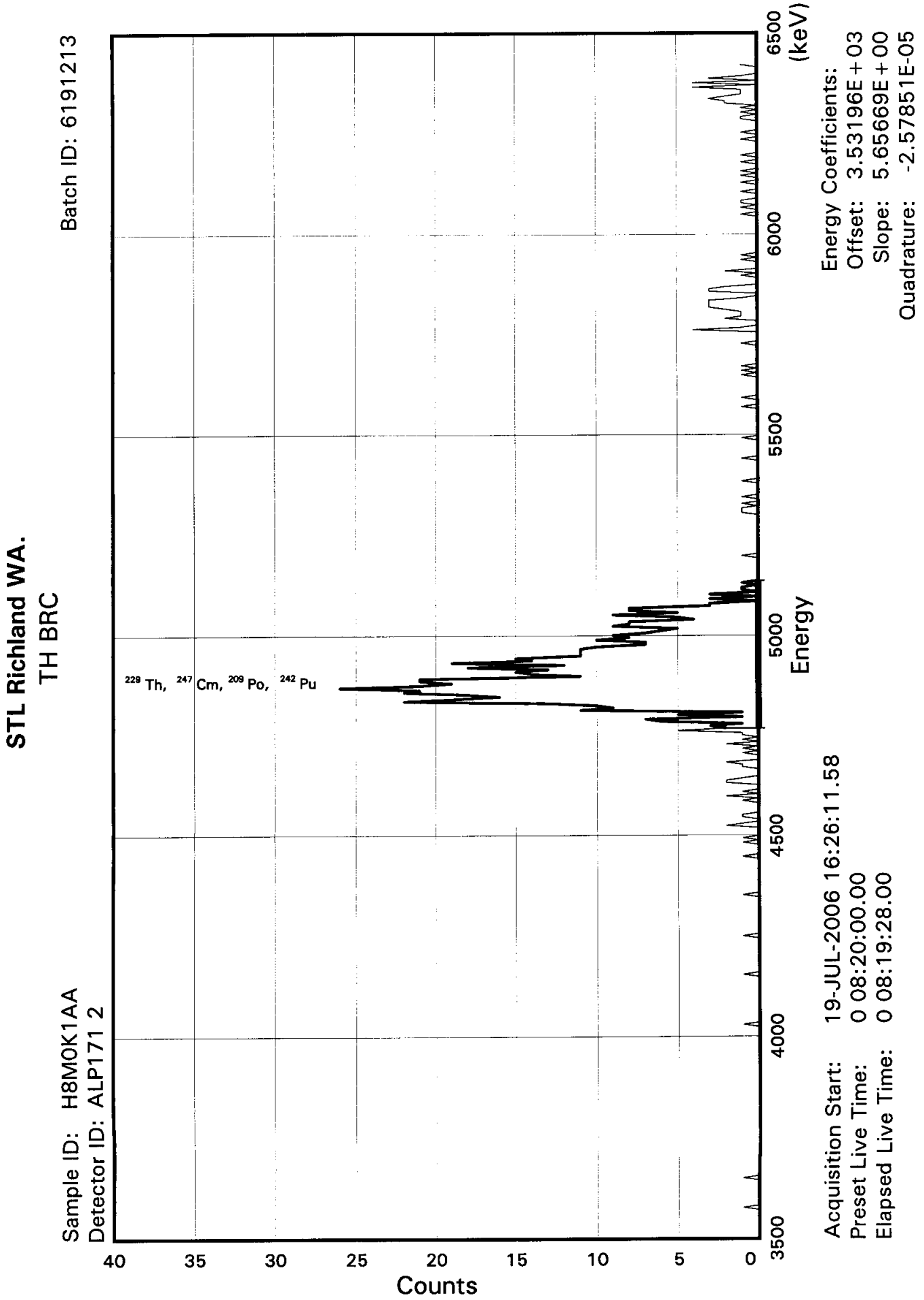
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M0K1AA

Detector: ALP171 2
Report Date: 20-Jul-06 05:49 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	6	0.000	5423.2	112.8	320	340
TH-229	623	7	1.240	4845.3	366.8	217	282
TH-230	12	1	0.023	4687.7	112.9	190	210
TH-232	1	2	0.000	4013.0	113.1	70	90

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8M0K1AA
Detector ID: ALP171 2
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
40
35
30
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 19-JUL-2006 16:26:11.58
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.53196E+03
Slope: 5.65669E+00
Quadrature: -2.57851E-05

SAMPLE IDENTIITY: H8M0K1AA

TITLE : TH BRC

DETECTOR : ALP171 2
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M0K1AA_190761626B.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:09:12

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3531.96 keV CONSTANT FWHM : 10.16670 Channels
SLOPE : 5.65669 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.257851E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0K1AA

Detector: ALP171 2
Report Date: 20-Jul-06 12:46 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5154.8	366.7	267	332	0.00	0.00	M I
PO-209	618	7	0	1.230	4923.1	366.8	219	284	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5344.3	366.6	300	365	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6077.9	371.8	430	496	0.00	0.00	M
TH-227	-9999	-9999	0	-10.010	6077.9	371.8	430	496	0.00	0.00	M
TH-228	-9999	-9999	0	-10.010	5463.1	366.5	321	386	0.00	0.00	M
TH-229	618	7	0	1.230	4885.2	366.8	219	284	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4727.6	366.9	191	256	0.00	0.00	M I
TH-232	2	2	2	0.002	4052.9	367.3	72	137	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5360.0	366.6	303	368	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4814.5	366.9	206	271	0.00	0.00	M I
U-235	-9999	-9999	0	-10.010	4437.7	367.1	140	205	0.00	0.00	M
PU-236	-9999	-9999	0	-10.010	5807.5	366.3	383	448	0.00	0.00	M
NP-237	-9999	-9999	0	-10.010	4827.9	366.9	209	274	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5538.9	366.5	335	400	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4237.9	367.2	104	169	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5196.5	366.7	274	339	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5525.5	372.1	332	398	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5246.7	366.6	283	348	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6152.6	366.1	444	509	0.00	0.00	M
PU-242	618	7	0	1.230	4940.4	366.8	219	284	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5315.2	366.6	295	360	0.00	0.00	M
CM-244	-9999	-9999	0	-10.010	5844.7	366.3	389	454	0.00	0.00	M
CM-246	-9999	-9999	0	-10.010	5426.4	366.5	315	380	0.00	0.00	M
CM-247	618	7	0	1.230	4910.3	366.8	219	284	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5118.5	366.7	260	325	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0K1AA
Detector: ALP171 2
Report Date: 20-Jul-06 12:46 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	@	151	0	@	201	11	@	251	0	@	301	0	@	351	1	@	401	1	@	451
		2	0		52	0	+	102	0	@	152	1	@	202	11	@	252	0	@	302	0	@	352	1	@	402	1	@	452
0		3	0		53	0	+	103	0	@	153	1	@	203	11	@	253	0	@	303	0	@	353	1	@	403	0	@	453
0		4	0		54	0	@	104	0	@	154	2	@	204	11	@	254	0	@	304	0	@	354	2	@	404	0	@	454
0		5	0		55	0	@	105	0	@	155	0	@	205	10	@	255	0	@	305	0	@	355	3	@	405	0	@	455
0		6	0		56	0	@	106	0	@	156	0	@	206	7	@	256	0	@	306	0	@	356	3	@	406	1	@	456
0		7	0		57	0	@	107	0	@	157	0	@	207	7	@	257	0	@	307	0	@	357	3	@	407	0	@	457
1		8	0		58	0	@	108	0	@	158	1	@	208	10	@	258	0	@	308	0	@	358	3	@	408	0	@	458
0		9	0		59	0	@	109	0	@	159	0	-	209	8	@	259	0	@	309	0	@	359	1	@	409	0	@	459
0		10	0		60	1	@	110	0	@	160	1	@	210	9	-	260	0	@	310	0	@	360	0	@	410	1	@	460
0		11	0		61	0	@	111	0	@	161	0	@	211	7	@	261	0	@	311	1	@	361	0	@	411	0	@	461
0		12	0		62	0	@	112	1	@	162	2	@	212	6	@	262	0	@	312	0	@	362	3	@	412	0	@	462
0		13	0		63	0	@	113	0	@	163	0	@	213	5	@	263	0	@	313	0	@	363	3	@	413	1	@	463
0		14	0		64	0	@	114	0	@	164	1	@	214	9	@	264	1	@	314	0	@	364	2	@	414	0	@	464
0		15	0		65	0	@	115	0	@	165	0	@	215	8	@	265	1	@	315	1	@	365	0	@	415	1	@	465
0		16	0		66	0	@	116	0	@	166	1	@	216	8	@	266	1	@	316	0	@	366	0	@	416	0	@	466
0		17	0		67	0	@	117	0	@	167	1	@	217	4	@	267	0	@	317	0	@	367	0	@	417	0	@	467
0		18	0		68	0	@	118	1	@	168	5	@	218	5	@	268	1	@	318	0	@	368	0	@	418	0	@	468
0		19	0		69	0	@	119	0	@	169	2	@	219	9	@	269	0	@	319	0	@	369	1	@	419	1	@	469
0		20	0		70	0	@	120	1	+	170	3	@	220	5	@	270	0	@	320	0	@	370	0	@	420	0	@	470
1		21	0		71	0	@	121	0	+	171	1	@	221	8	@	271	1	@	321	0	@	371	2	@	421	0	@	471
0		22	0	+	72	0	@	122	0	+	172	6	@	222	8	@	272	0	@	322	0	@	372	0	@	422	1	@	472
0		23	0	+	73	0	@	123	0	+	173	7	@	223	3	@	273	0	@	323	0	@	373	0	@	423	0	@	473
0		24	0	+	74	0	@	124	0	+	174	1	@	224	3	@	274	0	@	324	0	@	374	0	@	424	0	@	474
0		25	0	+	75	0	@	125	0	+	175	5	@	225	0	@	275	0	@	325	1	@	375	0	@	425	0	@	475
0		26	0	+	76	0	@	126	2	+	176	1	@	226	3	@	276	0	@	326	0	@	376	1	@	426	0	@	476
0		27	0	+	77	1	@	127	1	+	177	11	@	227	0	@	277	0	@	327	1	@	377	0	@	427	0	@	477
0		28	0	+	78	0	@	128	0	+	178	9	@	228	3	@	278	1	@	328	0	@	378	1	@	428	0	@	478
0		29	0	+	79	0	@	129	0	+	179	10	@	229	0	@	279	0	@	329	1	@	379	0	@	429	1	@	479
0		30	0	+	80	0	@	130	1	+	180	13	@	230	1	@	280	0	@	330	0	@	380	0	@	430	0	@	480
0		31	0	+	81	0	@	131	1	+	181	22	@	231	1	@	281	0	@	331	0	@	381	0	@	431	0	@	481
0		32	0	+	82	0	@	132	0	+	182	19	@	232	0	@	282	0	@	332	0	@	382	0	@	432	1	@	482
0		33	0	+	83	0	@	133	0	+	183	16	@	233	1	@	283	0	@	333	0	@	383	0	@	433	0	@	483
0		34	0	+	84	0	@	134	0	+	184	18	@	234	0	@	284	0	@	334	0	@	384	0	@	434	0	@	484
0		35	0	+	85	0	@	135	0	+	185	22	@	235	0	@	285	0	@	335	0	@	385	0	@	435	0	@	485
0		36	0	+	86	0	@	136	0	+	186	21	@	236	0	@	286	0	@	336	0	@	386	0	@	436	0	@	486
0		37	0	+	87	0	@	137	1	+	187	26	@	237	0	@	287	0	@	337	0	@	387	0	@	437	0	@	487
0		38	1	+	88	0	-	138	0	+	188	21	@	238	0	@	288	1	@	338	0	@	388	0	@	438	1	@	488
0		39	0	+	89	0	-	139	2	+	189	19	@	239	0	@	289	0	@	339	1	-	389	0	@	439	1	@	489
0		40	0	+	90	0	@	140	0	+	190	21	@	240	0	@	290	0	@	340	0	@	390	0	@	440	0	@	490
0		41	0	+	91	0	@	141	1	@	191	21	@	241	0	@	291	0	@	341	0	@	391	0	@	441	1	@	491
0		42	0	+	92	0	@	142	0	@	192	11	@	242	0	@	292	0	@	342	0	@	392	0	@	442	0	@	492
0		43	0	+	93	0	@	143	0	@	193	14	@	243	0	@	293	0	@	343	0	@	393	0	@	443	1	@	493
0		44	0	+	94	0	@	144	0	@	194	15	@	244	0	@	294	0	@	344	0	@	394	0	@	444	0	@	494
0		45	0	+	95	1	@	145	2	@	195	13	@	245	1	@	295	0	@	345	4	@	395	0	@	445	2	@	495
0		46	0	+	96	0	@	146	2	@	196	18	@	246	0	@	296	0	@	346	1	@	396	1	@	446	2	@	496
0		47	0	+	97	0	@	147	1	@	197	12	@	247	0	@	297	1	@	347	0	@	397	0	@	447	3	-	497
0		48	0	+	98	0	@	148	0	@	198	19	@	248	0	@	298	0	@	348	0	@	398	0	@	448	2	-	498
0		49	0	+	99	0	@	149	0	@	199	14	@	249	0	@	299	0	@	349	0	@	399	1	@	449	1	-	499
0		50	0	+	100	0	@	150	0	@	200	15	@	250	0	@	300	0	@	350	2	@	400	0	@	450	1	-	500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:46:51

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0K1AA_190761626B.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0K1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3548.93 keV         End energy       :  6421.43 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4885.17	618	0130.10		239.48	219	65	2.06E-02	4.0	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:46:54

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0K1AA_190761626B.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0K1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                 1
 Number of unidentified lines                      0
 Number of lines tentatively identified by NID     1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity :	0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M0K1AA_190761626B.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4885.17	219	284	618	618	0.00		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M0Q1AA

Detector: ALP171 3
Report Date: 20-Jul-06 05:50 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	4	1	0.007	5423.2	119.3	309	329
TH-229	496	2	0.991	4845.3	352.0	212	271
TH-230	6	0	0.012	4687.7	119.4	185	205
TH-232	1	0	0.002	4013.0	119.5	72	92

End of Alpha Region Report
(Produced by ANAL Report)

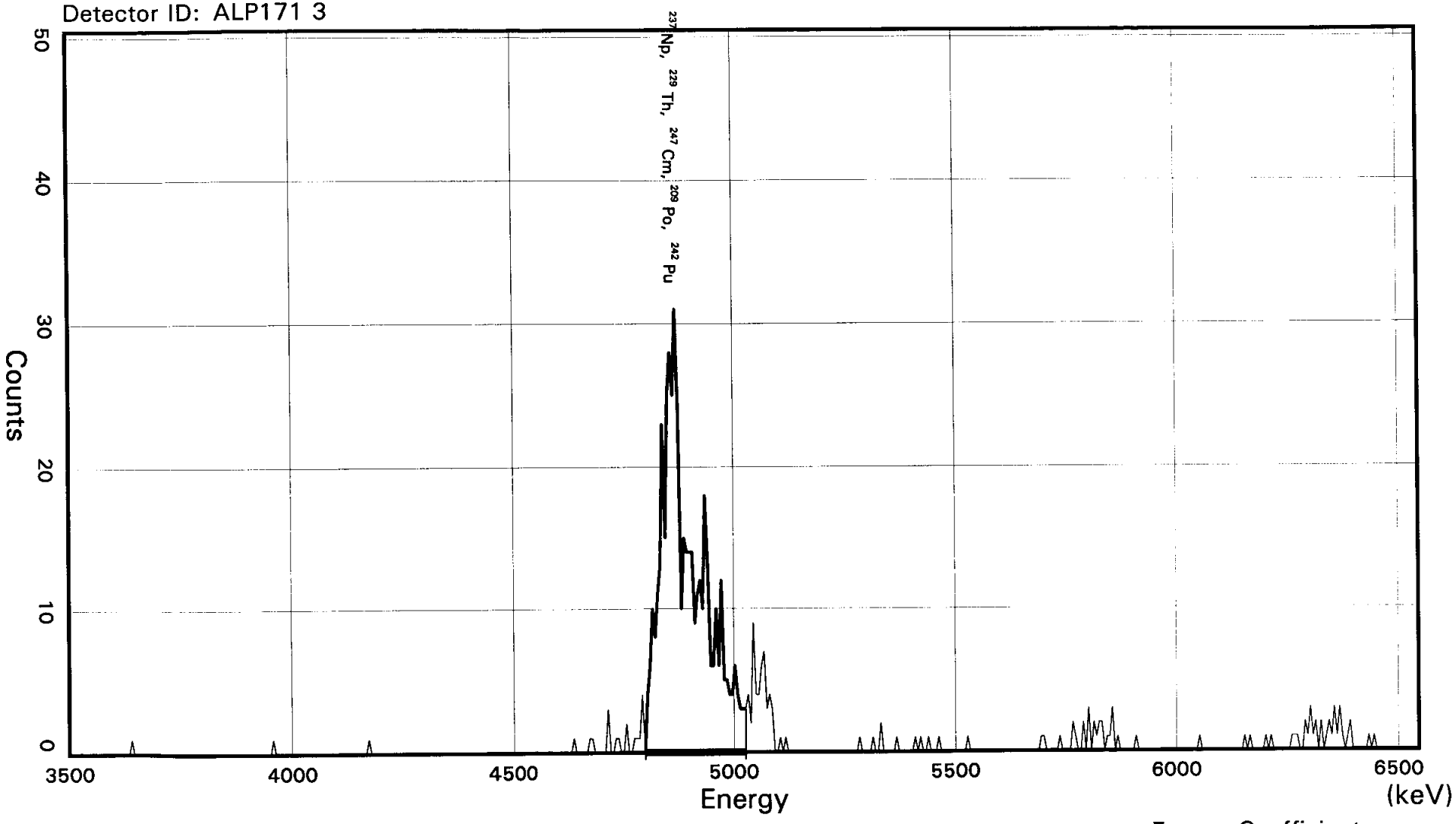
STL Richland WA.

TH BRC

Sample ID: H8M0Q1AA

Detector ID: ALP171 3

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:26:11.58

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.49135E+03

Slope: 5.98005E+00

Quadrature: -2.72507E-05

SAMPLE IDENTIITY: H8M0Q1AA

TITLE : TH BRC

DETECTOR : ALP171 3
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M0Q1AA_190761626C.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:09:29

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3491.35 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 5.98005 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.272507E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0Q1AA

Detector: ALP171 3
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5132.2	226.7	264	302	0.00	0.00	M
PO-209	441	1	0	0.882	4900.5	226.7	219	257	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5321.7	226.6	296	334	0.00	0.00	M
AC-227	3	6	4	0.001	6055.4	226.3	419	457	0.00	0.00	S
TH-227	3	6	4	0.001	6055.4	226.3	419	457	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5440.5	226.5	316	354	0.00	0.00	M
TH-229	441	1	0	0.882	4862.6	226.7	219	257	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4705.0	226.8	193	231	0.00	0.00	S I
TH-232	1	1	1	0.000	4030.3	227.0	80	118	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5337.5	226.6	299	337	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4791.9	226.8	207	245	0.00	0.00	S I
U-235	0	2	0	-0.002	4415.1	226.9	144	182	0.00	0.00	S
PU-236	12	32	22	-0.008	5785.0	226.4	374	412	0.00	0.00	S
NP-237	441	1	0	0.882	4805.3	226.7	219	257	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5516.4	226.5	329	367	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4215.3	227.0	111	149	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5173.9	226.6	271	309	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5502.9	226.5	326	364	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5224.1	226.6	280	318	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6130.1	226.3	432	470	0.00	0.00	M
PU-242	441	1	0	0.882	4917.8	226.7	219	257	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5292.6	226.6	291	329	0.00	0.00	M
CM-244	11	29	22	-0.007	5822.2	226.4	380	418	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5403.8	226.6	310	348	0.00	0.00	M
CM-247	441	1	0	0.882	4887.7	226.7	219	257	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5095.9	226.7	258	296	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0Q1AA
Detector: ALP171 3
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0+	101		0+	151		0+	201		4@	251		0@	301		0@	351		0@	401		0@	451
		2		0	52		0+	102		0+	152		0+	202		4@	252		0@	302		0@	352		0@	402		0@	452
	0	3		0	53		0+	103		0+	153		0+	203		6@	253		0@	303		0@	353		0@	403		0@	453
	0	4		0	54		0+	104		0+	154		0+	204		4@	254		0@	304		0@	354		0@	404		1@	454
	0	5		0	55		0+	105		0+	155		3+	205		3@	255		1@	305		0@	355		1@	405		0@	455
	0	6		0	56		0+	106		0+	156		0+	206		3@	256		0@	306		0@	356		0@	406		1@	456
	0	7		0	57		0+	107		0+	157		0@	207		3	257		0@	307		0@	357		0@	407		0@	457
	0	8		0	58		0+	108		0+	158		1@	208		4+	258		2@	308		0@	358		0@	408		0-	458
	0	9		0	59		0+	109		0+	159		1@	209		2+	259		0@	309		0@	359		0@	409		0-	459
	0	10		0	60		0+	110		0+	160		0@	210		9+	260		0-	310		0@	360		0@	410		0-	460
	0	11		0	61		0@	111		0+	161		0@	211		4+	261		0@	311		0@	361		0@	411		0-	461
	0	12		0	62		0@	112		0+	162		2@	212		4+	262		0@	312		0@	362		0@	412		0-	462
	0	13		0	63		0@	113		0+	163		0@	213		6+	263		0@	313		0@	363		0-	413		0-	463
	0	14		0	64		1@	114		0+	164		0@	214		7@	264		1@	314		0@	364		0-	414		1-	464
	0	15		0	65		0@	115		0+	165		1@	215		3@	265		0@	315		0+	365		0-	415		1-	465
	0	16		0	66		0@	116		0+	166		1@	216		4@	266		0@	316		0+	366		0-	416		1-	466
	0	17		0	67		0@	117		0+	167		1@	217		3@	267		0@	317		0+	367		0-	417		0-	467
	0	18		0	68		0@	118		0+	168		4@	218		0@	268		0@	318		0	368		0-	418		0-	468
	0	19		0	69		0-	119		0+	169		0-	219		0@	269		0@	319		1	369		0@	419		2-	469
	0	20		0	70		0-	120		0+	170		4@	220		1@	270		0@	320		1	370		0@	420		1-	470
	0	21		0	71		0-	121		0+	171		6@	221		0@	271		1@	321		0	371		0@	421		3	471
	0	22		0	72		0-	122		0+	172		10@	222		1@	272		0@	322		0	372		0@	422		1	472
	0	23		0	73		0-	123		0+	173		8@	223		0@	273		1@	323		0	373		0@	423		2	473
	0	24		0	74		0-	124		0+	174		11@	224		0@	274		0@	324		0+	374		0@	424		0	474
	1	25		0	75		0-	125		0+	175		13@	225		0@	275		0@	325		0+	375		0@	425		2	475
	0	26		0	76		0-	126		0+	176		23@	226		0@	276		1@	326		1+	376		0@	426		0	476
	0	27		0	77		0-	127		0+	177		15@	227		0@	277		0@	327		0+	377		0@	427		1	477
	0	28		1	78		0-	128		0+	178		25@	228		0@	278		0@	328		0+	378		0@	428		2	478
	0	29		0	79		0-	129		0+	179		28@	229		0@	279		0@	329		0+	379		1@	429		1	479
	0	30		0+	80		0-	130		0+	180		25@	230		0@	280		1@	330		0@	380		0@	430		3	480
	0	31		0+	81		0-	131		0+	181		31@	231		0@	281		0@	331		2@	381		0@	431		1	481
	0	32		0+	82		0-	132		0+	182		24@	232		0@	282		0@	332		1@	382		0-	432		3	482
	0	33		0+	83		0-	133		0	183		10@	233		0@	283		0@	333		0@	383		0@	433		1	483
	0	34		0+	84		0-	134		0	184		15@	234		0@	284		0@	334		0@	384		0@	434		0	484
	0	35		0+	85		0-	135		0	185		14@	235		0@	285		0@	335		2@	385		0@	435		1	485
	0	36		0+	86		0-	136		0	186		14@	236		0@	286		0@	336		0@	386		0@	436		2	486
	0	37		0+	87		0-	137		0	187		14@	237		0@	287		0@	337		3@	387		0@	437		0	487
	0	38		0+	88		0-	138		0	188		9@	238		0@	288		0@	338		0@	388		0@	438		0	488
	0	39		0+	89		0-	139		0	189		11@	239		0@	289		0@	339		2@	389		0@	439		0	489
	0	40		0+	90		0-	140		0	190		12@	240		0@	290		0@	340		1@	390		0@	440		0	490
	0	41		0+	91		0-	141		0	191		10@	241		0@	291		1@	341		2@	391		0@	441		0	491
	0	42		0+	92		0-	142		1	192		18@	242		0@	292		0@	342		2@	392		0@	442		0	492
	0	43		0+	93		0-	143		0+	193		13@	243		0@	293		0@	343		0@	393		0@	443		1	493
	0	44		0+	94		0@	144		0+	194		6@	244		0@	294		0@	344		1@	394		0@	444		0	494
	0	45		0+	95		0@	145		0+	195		6@	245		0@	295		0@	345		1@	395		0@	445		1	495
	0	46		0+	96		0@	146		0+	196		10@	246		0@	296		0@	346		3@	396		1@	446		0	496
	0	47		0+	97		0@	147		0+	197		6@	247		0@	297		0@	347		0@	397		0@	447		0	497
	0	48		0+	98		0@	148		1+	198		12@	248		0@	298		0@	348		1@	398		1@	448		0	498
	0	49		0+	99		0@	149		1+	199		5@	249		0@	299		0@	349		0@	399		0@	449		0	499
	0	50		0+	100		0+	150		0+	200		5@	250		1@	300		0@	350		0@	400		0@	450		0	500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:46:58

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0Q1AA_190761626C.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0Q1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3509.29 keV         End energy       :  6545.99 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4862.65	441	0	59.80	229.55	219	38	1.47E-02	4.8	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:00

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0Q1AA_190761626C.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0Q1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M0Q1AA_190761626C.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4862.64	219	257	441	440	0.05		

End of Report

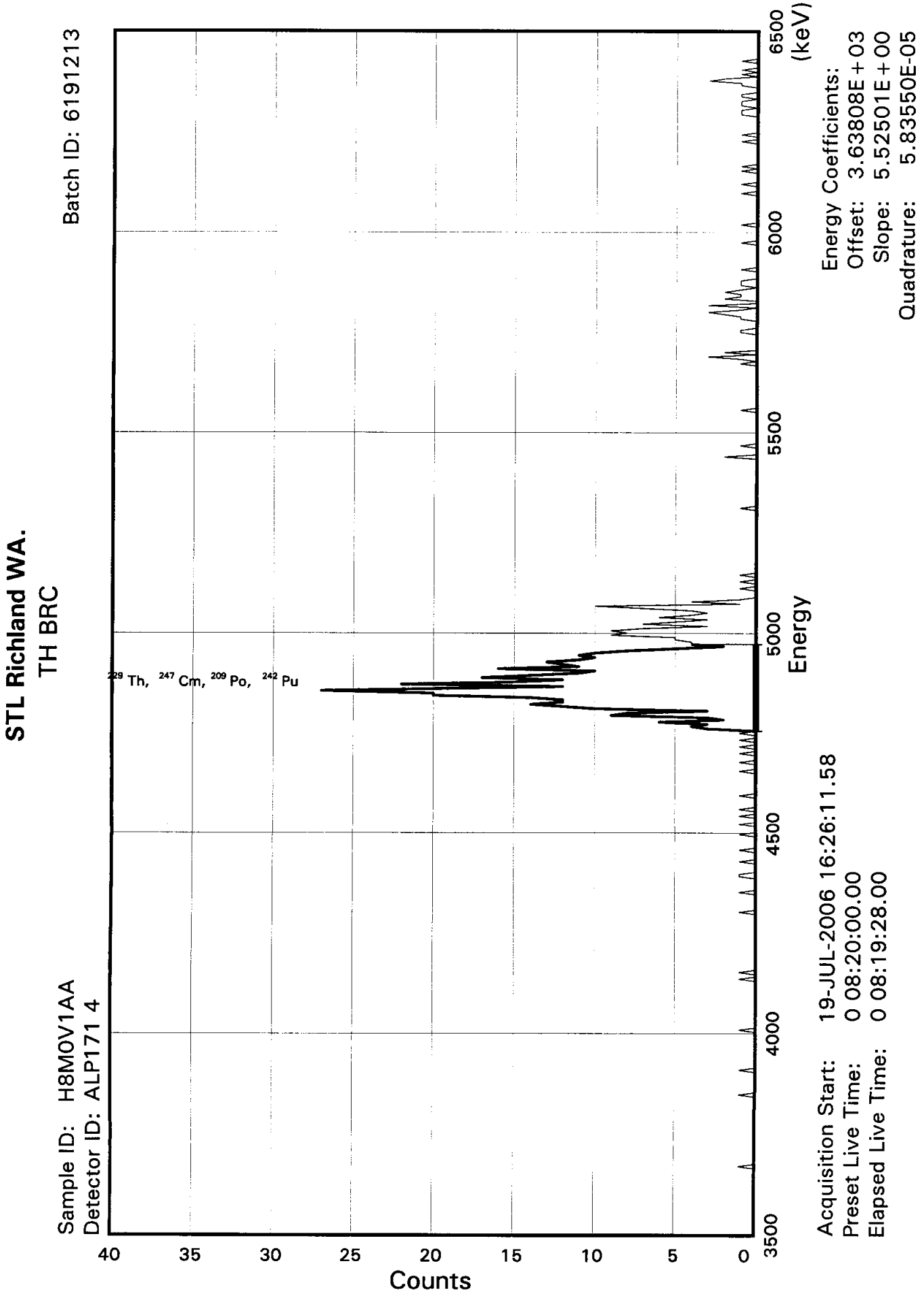
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M0V1AA

Detector: ALP171 4
Report Date: 20-Jul-06 05:50 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	0	0.004	5423.2	111.2	307	327
TH-229	533	3	1.064	4845.3	333.1	202	262
TH-230	4	0	0.008	4687.7	110.9	175	195
TH-232	1	0	0.002	4013.0	110.6	53	73

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8MOV1AA
Detector ID: ALP171 4
229 Th, 247 Cm, 209 Po, 242 Pu
Counts
40
35
30
25
20
15
10
5
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 19-JUL-2006 16:26:11.58
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.63808E+03
Slope: 5.52501E+00
Quadrature: 5.83550E-05

SAMPLE IDENTITY: H8M0V1AA

TITLE : TH BRC

DETECTOR : ALP171 4
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M0V1AA_190761626D.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:09:39

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3638.08 keV CONSTANT FWHM : 11.00000 Channels
SLOPE : 5.52501 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 5.835500E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0V1AA

Detector: ALP171 4
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5149.3	216.7	251	290	0.00	0.00	M
PO-209	426	1	0	0.852	4917.6	216.5	202	241	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5338.7	216.9	285	324	0.00	0.00	M
AC-227	4	7	4	0.001	6072.4	217.5	416	455	0.00	0.00	S
TH-227	4	7	4	0.001	6072.4	217.5	416	455	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5457.6	217.0	306	345	0.00	0.00	M
TH-229	426	1	0	0.852	4879.7	216.5	202	241	0.00	0.00	P
TH-230	-9999	-9999	0	-10.010	4722.1	216.4	174	213	0.00	0.00	M I
TH-232	2	0	1	0.003	4047.4	215.8	52	91	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5354.5	211.3	288	326	0.00	0.00	M
U-234	-9999	-9999	0	-10.010	4809.0	216.4	189	228	0.00	0.00	M I
U-235	7	2	0	0.012	4432.2	216.1	121	160	0.00	0.00	S
PU-236	18	34	23	0.001	5802.0	217.2	368	407	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4822.4	216.4	192	231	0.00	0.00	M I
PU-238	-9999	-9999	0	-10.010	5533.4	217.0	320	359	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4232.4	216.0	85	124	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5191.0	216.7	258	297	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5520.0	217.0	317	356	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5241.2	216.8	267	306	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6147.1	217.5	430	469	0.00	0.00	M
PU-242	426	1	0	0.852	4934.9	216.5	202	241	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5309.7	216.8	279	318	0.00	0.00	M
CM-244	13	31	23	-0.006	5839.2	211.7	375	413	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5420.9	216.9	299	338	0.00	0.00	M
CM-247	426	1	0	0.852	4904.8	216.5	202	241	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5113.0	216.7	244	283	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0V1AA
Detector: ALP171 4
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	-	101	0	+	151	1	@	201	5	@	251	0	@	301	0	@	351	0	@	401	0	@	451	0		501
		2	0	+	52	0	-	102	0	+	152	0	@	202	3	@	252	1	@	302	0	@	352	1	@	402	0	@	452	1		502
0		3	0	+	53	0	-	103	0	+	153	3	@	203	6	@	253	0	@	303	0	@	353	1	@	403	1	@	453	0		503
0		4	0	+	54	0	-	104	0	+	154	4	@	204	4	@	254	0	@	304	0	@	354	1	@	404	0	@	454	0		504
0		5	0	+	55	0	-	105	1	+	155	3	@	205	3	@	255	0	@	305	0	@	355	0	@	405	1	@	455	0		505
1		6	0	+	56	0	-	106	0	+	156	6	@	206	4	@	256	0	@	306	0	@	356	0	@	406	0	-	456	0		506
0		7	0	+	57	0	-	107	0	+	157	2	@	207	7	@	257	0	@	307	0	+	357	0	@	407	0	-	457	0		507
0		8	0	+	58	0	-	108	0	+	158	3	@	208	10	@	258	0	@	308	0	+	358	0	-	408	0	-	458	0		508
0		9	0	+	59	0	-	109	0	+	159	9	@	209	1	@	259	0	@	309	0	+	359	1	-	409	0	-	459	0		509
0		10	0	+	60	0	-	110	1	+	160	8	@	210	4	@	260	0	@	310	0		360	0	-	410	0	-	460	0		510
0		11	0	+	61	0	-	111	0		161	3	@	211	1	@	261	0	@	311	0		361	0	-	411	0	-	461	0		511
0		12	0	+	62	0	-	112	0		162	10	@	212	0	@	262	0	@	312	0		362	0	-	412	0	-	462	0		512
0		13	0	+	63	0	-	113	0		163	12	@	213	0	@	263	0	@	313	0		363	0	-	413	0	-	463			
0		14	0	+	64	0	-	114	1		164	14	@	214	0	@	264	0	@	314	0		364	0		414	0	-	464			
0		15	0	+	65	0	-	115	0		165	12	@	215	0	@	265	0	@	315	0		365	0		415	0	-	465			
0		16	0	+	66	0	-	116	0		166	12	@	216	1	@	266	0	@	316	0		366	0	@	416	1	-	466			
0		17	1	+	67	0	-	117	1		167	14	@	217	0	@	267	0	@	317	1		367	0	@	417	0	-	467			
0		18	0	+	68	0	-	118	0		168	20	@	218	0	@	268	0	@	318	0	+	368	0	@	418	0	-	468			
0		19	0	+	69	0	-	119	0		169	20	@	219	1	@	269	0	@	319	1	+	369	0	@	419	1	-	469			
0		20	0	+	70	1	-	120	0		170	27	@	220	0	@	270	0	@	320	3	+	370	0	@	420	0		470			
0		21	0	+	71	0	@	121	0		171	20	@	221	0	@	271	0	@	321	0	+	371	1	@	421	0		471			
0		22	0	+	72	0	@	122	0		172	12	@	222	1	@	272	0	@	322	2	+	372	0	@	422	0		472			
0		23	0	+	73	0	@	123	1		173	22	@	223	0	@	273	0	@	323	0	+	373	0	@	423	0		473			
0		24	0	+	74	0	@	124	0	+	174	15	@	224	0	@	274	0	@	324	0	+	374	0	@	424	0		474			
0		25	0	+	75	0	+	125	0	+	175	12	@	225	0	@	275	2	@	325	0	@	375	0	@	425	0		475			
0		26	0	+	76	0	+	126	0	+	176	17	@	226	0	@	276	0	@	326	0	@	376	0	@	426	0		476			
0		27	0	+	77	0	+	127	0	+	177	14	@	227	0	@	277	0	@	327	0	@	377	0	@	427	0		477			
0		28	0	+	78	0	+	128	0	+	178	11	@	228	0	@	278	0	@	328	0	@	378	0	@	428	1		478			
0		29	0	+	79	1	+	129	0	+	179	10	@	229	0	@	279	0	@	329	0	@	379	1	@	429	1		479			
0		30	0	+	80	0	+	130	0	+	180	16	@	230	0	@	280	1	@	330	0	@	380	0	-	430	1		480			
0		31	0	+	81	0	+	131	0	+	181	11	@	231	0	@	281	0	@	331	1	@	381	0	@	431	0		481			
0		32	0	+	82	0	+	132	0	+	182	12	@	232	0	@	282	0	@	332	1	@	382	0	@	432	1		482			
0		33	0	+	83	0	+	133	0	+	183	13	@	233	0	@	283	0	@	333	0	@	383	0	@	433	1		483			
0		34	0	+	84	0	+	134	1	+	184	11	@	234	0	@	284	0	@	334	0	@	384	0	@	434	1		484			
0		35	0	@	85	0	+	135	0	+	185	10	@	235	0	@	285	0	@	335	0	@	385	0	@	435	0		485			
0		36	0	@	86	1	+	136	0	+	186	11	@	236	0	@	286	0	@	336	0	@	386	0	@	436	1		486			
0		37	0	@	87	1	+	137	0	+	187	10	@	237	0	@	287	0	@	337	1	@	387	0	@	437	1		487			
1		38	0	@	88	0	+	138	1	+	188	8	@	238	0	@	288	0	@	338	1	@	388	0	@	438	0		488			
0		39	0	@	89	0	+	139	0	@	189	5	@	239	0	@	289	0	@	339	2	@	389	0	@	439	0		489			
0		40	1	@	90	0	+	140	0	@	190	2	@	240	0	@	290	0	@	340	3	@	390	0	@	440	0		490			
0		41	0	@	91	0	+	141	0	@	191	4		241	0	@	291	0	@	341	1	@	391	0	@	441	1		491			
0		42	0	-	92	0	+	142	1	-	192	4		242	0	@	292	0	@	342	0	@	392	0	@	442	1		492			
0		43	1	-	93	1	+	143	0	@	193	5		243	0	@	293	0	@	343	3	@	393	1	@	443	3		493			
0		44	0	-	94	0	+	144	0	@	194	5	+	244	0	@	294	0	@	344	0	@	394	0	@	444	2		494			
0		45	0	-	95	0	+	145	1	@	195	9	+	245	0	@	295	0	@	345	0	@	395	0	@	445	0		495			
0		46	0	-	96	0	+	146	0	@	196	8	+	246	0	@	296	1	@	346	2	@	396	0	@	446	1		496			
0		47	0	-	97	0	+	147	0	@	197	9	+	247	0	@	297	0	@	347	1	@	397	1	@	447	0		497			
0		48	0	-	98	1	+	148	1	@	198	7	+	248	0	@	298	0	@	348	1	@	398	0	@	448	1		498			
1		49	0	-	99	0	+	149	0	@	199	3	+	249	0	-	299	0	@	349	2	@	399	0	@	449	0		499			
0		50	0	-	100	0	+	150	0	@	200	7	+	250	0	@	300	0	@	350	1	@	400	0	@	450	0		500			

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:02

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0V1AA_190761626D.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0V1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3654.66 keV         End energy       :  6482.19 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4879.66	426	0127.08		224.19	202	39	1.42E-02	4.8	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:04

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M0V1AA_190761626D.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M0V1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity :	0.000E+00	0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M0V1AA_190761626D.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4879.66	202	241	426	428	-0.10		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M051AA

Detector: ALP171 5
Report Date: 20-Jul-06 05:50 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	1	0.003	5423.2	118.0	301	321
TH-229	660	2	1.319	4845.3	378.0	203	267
TH-230	8	0	0.016	4687.7	118.2	176	196
TH-232	3	1	0.005	4013.0	118.4	62	82

End of Alpha Region Report
(Produced by ANAL Report)

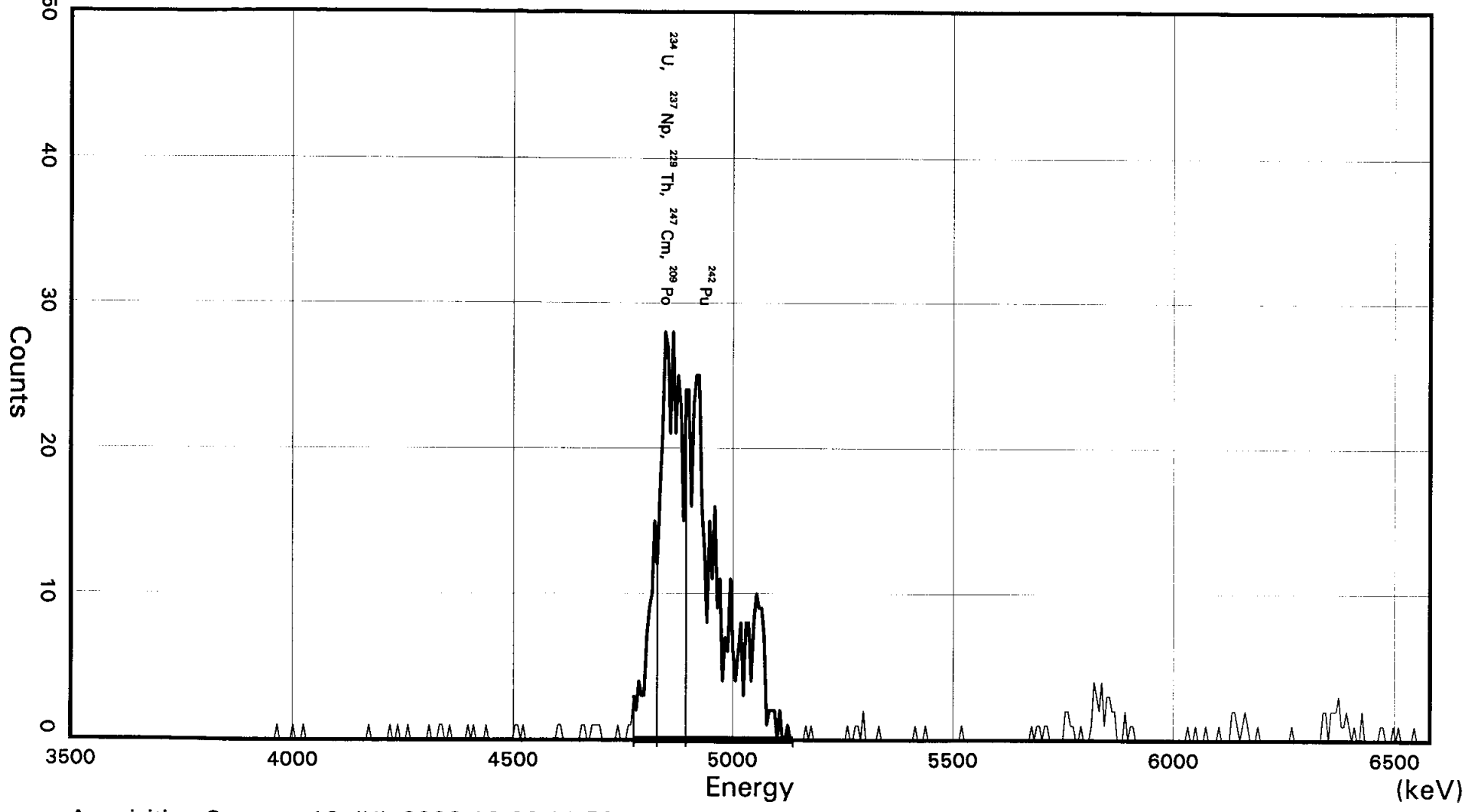
STL Richland WA.

TH BRC

Sample ID: H8M051AA

Detector ID: ALP171 5

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:26:11.58

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:19:28.00

Energy Coefficients:

Offset: 3.55643E+03

Slope: 5.92919E+00

Quadrature: -4.83406E-05

SAMPLE IDENTIITY: H8M051AA

TITLE : TH BRC

DETECTOR : ALP171 5
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M051AA_190761626E.CN
F;1
ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:53:15

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 08-JUL-2006 00:27:11

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3556.43 keV CONSTANT FWHM : 8.00000 Channels
SLOPE : 5.92919 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.483406E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M051AA

Detector: ALP171 5
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5119.7	118.1	252	272	0.00	0.00	M I
PO-209	462	0	0	0.925	4888.0	118.2	206	226	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5309.2	118.0	284	304	0.00	0.00	M
AC-227	2	1	2	0.003	6042.8	117.8	408	428	0.00	0.00	S
TH-227	2	1	2	0.003	6042.8	117.8	408	428	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5428.0	118.0	304	324	0.00	0.00	M
TH-229	462	0	0	0.925	4850.1	118.2	206	226	0.00	0.00	P
TH-230	6	0	0	0.012	4692.5	118.2	179	199	0.00	0.00	
TH-232	3	1	0	0.005	4017.8	118.4	65	85	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5325.0	118.0	286	306	0.00	0.00	M
U-234	462	0	0	0.925	4779.4	118.2	206	226	0.00	0.00	P
U-235	6	0	0	0.012	4402.6	118.3	130	150	0.00	0.00	
PU-236	7	16	8	-0.002	5772.5	117.9	362	382	0.00	0.00	S
NP-237	462	0	0	0.925	4792.8	118.2	206	226	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5503.9	118.0	317	337	0.00	0.00	M
U-238	3	0	0	0.006	4202.8	118.4	97	117	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5161.4	118.1	259	279	0.00	0.00	M I
AM-241	-9999	-9999	0	-10.010	5490.4	118.0	314	334	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5211.6	118.0	267	287	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6117.6	117.7	421	441	0.00	0.00	M
PU-242	198	2	0	0.394	4905.3	307.1	215	267	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5280.1	118.0	279	299	0.00	0.00	M
CM-244	24	39	8	0.010	5809.7	117.9	369	389	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5391.3	118.0	298	318	0.00	0.00	M
CM-247	462	0	0	0.925	4875.2	118.2	206	226	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5083.4	124.0	245	266	0.00	0.00	M I

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M051AA
Detector: ALP171 5
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1		0	51		0+	101		0	151		0	201		4@	251		0@	301		0	351		0	401		0	451		0	501
		2		0	52		0+	102		0	152		0	202		8@	252		0@	302		0	352		0	402		0	452		0	502
	0	3		0	53		0+	103		0	153		0	203		10@	253		0@	303		0	353		0	403		0	453		0	503
	0	4		0	54		1+	104		0	154		1	204		9@	254		0@	304		0	354		0	404		0	454		0	504
	0	5		0	55		0+	105		0	155		1	205		9@	255		0@	305		0	355		0	405		0	455		0	505
	0	6		0	56		0+	106		0	156		3+	206		7@	256		0@	306		0	356		0	406		0	456		1	506
	0	7		0	57		0+	107		0	157		2@	207		1@	257		0@	307		0	357		0	407		0	457		0	507
	0	8		0	58		0+	108		0	158		4@	208		2@	258		0@	308		0	358		0@	408		0	458		0	508
	0	9		0	59		0+	109		0	159		3@	209		2@	259		0@	309		1	359		0@	409		1	459		0	509
	0	10		0	60		0+	110		1	160		3@	210		2@	260		0@	310		0	360		0@	410		0	460		0	510
	0	11		0	61		0+	111		1	161		7@	211		0@	261		0@	311		1	361		0@	411		0	461		0	511
	0	12		0	62		1+	112		0	162		9@	212		2@	262		0@	312		1+	362		0@	412		0	462		0	512
	0	13		0	63		0+	113		1	163		10@	213		0@	263		0@	313		0+	363		0@	413		0	463			
	0	14		0	64		0+	114		0	164		15@	214		0@	264		1@	314		1+	364		0@	414		0	464			
	0	15		0+	65		1+	115		0	165		12@	215		1@	265		0@	315		1+	365		0@	415		0	465			
	0	16		0+	66		0+	116		0	166		17@	216		0@	266		0@	316		0+	366		0@	416		0	466			
	0	17		0+	67		0+	117		0	167		21@	217		0+	267		0@	317		0+	367		0@	417		0	467			
	0	18		0+	68		0	118		0	168		28@	218		0@	268		1@	318		0+	368		0@	418		0	468			
	0	19		1+	69		1	119		0	169		27@	219		0@	269		0@	319		0@	369		1@	419		0	469			
	0	20		0+	70		0	120		0	170		21@	220		0@	270		0@	320		0@	370		0@	420		0	470			
	0	21		0+	71		0	121		0	171		28@	221		0@	271		0@	321		0@	371		0-	421		2	471			
	0	22		0+	72		0	122		0	172		21@	222		1@	272		0@	322		2@	372		1@	422		2	472			
	0	23		0+	73		0	123		0	173		25@	223		0@	273		0@	323		2@	373		0@	423		0	473			
	0	24		0+	74		0	124		0	174		23@	224		1@	274		0@	324		1@	374		0@	424		2	474			
	0	25		1+	75		0	125		0	175		15@	225		0@	275		0@	325		1@	375		0@	425		2	475			
	0	26		0+	76		0	126		0	176		24+	226		0@	276		0@	326		0@	376		1@	426		2	476			
	0	27		0+	77		1	127		1	177		24+	227		0@	277		0@	327		0@	377		0@	427		3	477			
	0	28		0+	78		0	128		1	178		16+	228		0@	278		0@	328		1@	378		0@	428		1	478			
	0	29		1+	79		0	129		0+	179		23+	229		0-	279		0@	329		0@	379		0-	429		1	479			
	0	30		0+	80		0+	130		0+	180		25+	230		0@	280		0@	330		0@	380		0-	430		2	480			
	0	31		0+	81		1+	131		0+	181		25+	231		0@	281		0@	331		0@	381		1-	431		1	481			
	0	32		0+	82		1+	132		0+	182		16+	232		0@	282		1@	332		1@	382		0-	432		0	482			
	0	33		0+	83		0+	133		0+	183		13+	233		0@	283		0@	333		4-	383		0-	433		1	483			
	0	34		0+	84		0+	134		0+	184		8+	234		0@	284		0@	334		3-	384		0-	434		0	484			
	0	35		0+	85		1+	135		0+	185		15+	235		0@	285		0+	335		2-	385		0-	435		0	485			
	0	36		0	86		0+	136		1+	186		11+	236		0@	286		0+	336		4-	386		2-	436		2	486			
	0	37		0	87		0+	137		1+	187		16+	237		0@	287		0+	337		1-	387		2-	437		0	487			
	0	38		0	88		0+	138		0+	188		9+	238		1@	288		0	338		3-	388		1-	438		0	488			
	0	39		0	89		0+	139		0+	189		11+	239		0@	289		0	339		3-	389		0-	439		0	489			
	0	40		0	90		0+	140		1+	190		4+	240		0@	290		0	340		2	390		1-	440		0	490			
	0	41		0	91		0+	141		1+	191		7+	241		1@	291		0	341		2	391		2-	441		0	491			
	0	42		0	92		1+	142		1+	192		6+	242		1@	292		0	342		0	392		1	442		0	492			
	0	43		0	93		0+	143		1+	193		11+	243		0@	293		0	343		0	393		0	443		1	493			
	0	44		0	94		1+	144		0+	194		6+	244		2@	294		0	344		0	394		0	444		1	494			
	0	45		0	95		0+	145		0+	195		4@	245		0@	295		0	345		2	395		0	445		0	495			
	0	46		0	96		0+	146		0+	196		6@	246		0@	296		0	346		0	396		1	446		0	496			
	0	47		0+	97		0+	147		0+	197		8@	247		0@	297		0	347		1	397		0	447		0	497			
	0	48		0+	98		0+	148		0+	198		3@	248		0-	298		0	348		1	398		0	448		1	498			
	0	49		0+	99		1+	149		0+	199		8@	249		0@	299		0	349		0	399		0	449		0	499			
	0	50		0+	100		0+	150		1	200		8@	250		1@	300		0	350		0	400		0	450		1	500			

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:07

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M051AA_190761626E.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M051AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3574.21 keV         End energy       :  6579.50 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4850.13	462	0	59.29	218.58	206	20	1.54E-02	4.7	
2	0	4937.64	198	0	219.38	233.40	215	52	6.61E-03	7.1	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:09

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M051AA_190761626E.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M051AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    2      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M051AA_190761626E.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4850.13	206	226	462	318	6.70		
4937.63	215	267	198	602	-28.71	262	0.08

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

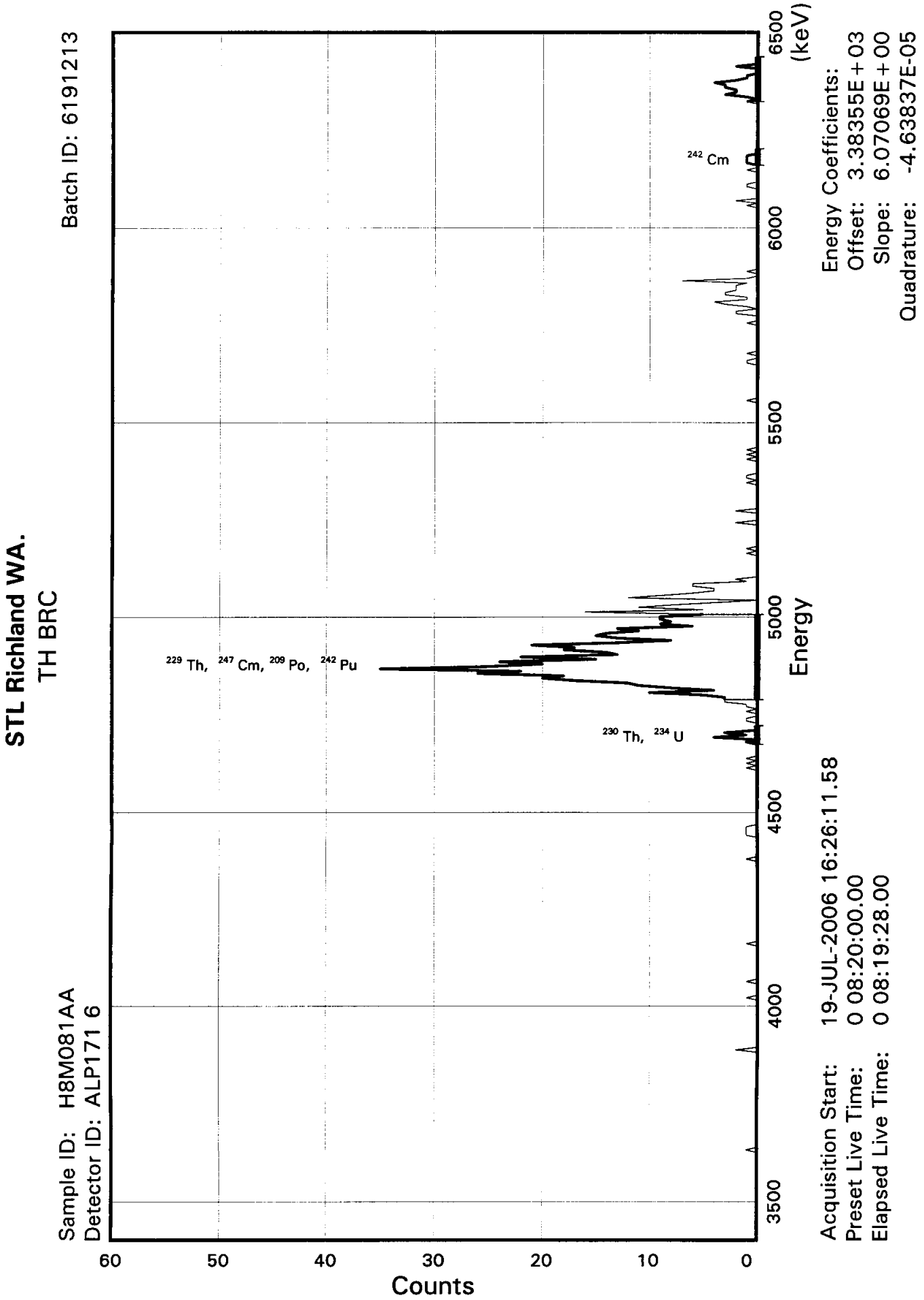
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M081AA

Detector: ALP171 6
Report Date: 20-Jul-06 05:50 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	6	3	0.009	5423.2	120.8	322	342
TH-229	616	2	1.231	4845.3	350.7	226	284
TH-230	12	1	0.023	4687.7	121.0	200	220
TH-232	1	2	0.000	4013.0	121.2	89	109

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8M081AA
Detector ID: ALP171 6
229 Th, 247 Cm, 209 Po, 242 Pu
230 Th, 234 U
242 Cm
Counts
Energy
(keV)
Energy Coefficients:
Offset: 3.38355E+03
Slope: 6.07069E+00
Quadrature: -4.63837E-05
Acquisition Start: 19-JUL-2006 16:26:11.58
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00

SAMPLE IDENTIITY: H8M081AA

TITLE : TH BRC

DETECTOR : ALP171 6
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M081AA_190761626F.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:10:11

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3383.55 keV CONSTANT FWHM : 7.66667 Channels
SLOPE : 6.07069 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.463837E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M081AA

Detector: ALP171 6
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-10.010	5148.3	217.6	277	313	0.00	0.00	M
PO-209	498	1	0	0.996	4916.6	217.7	232	268	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5337.8	217.5	308	344	0.00	0.00	M
AC-227	-9999	-9999	0	-10.010	6071.4	223.1	429	466	0.00	0.00	I
TH-227	-9999	-9999	0	-10.010	6071.4	223.1	429	466	0.00	0.00	I
TH-228	-9999	-9999	0	-10.010	5456.6	217.4	328	364	0.00	0.00	M
TH-229	498	1	0	0.996	4878.7	217.7	232	268	0.00	0.00	P
TH-230	9	1	0	0.017	4721.1	48.4	213	221	0.00	0.00	P
TH-232	3	3	1	0.002	4046.4	212.1	95	130	0.00	0.00	S
U-232	-9999	-9999	0	-10.010	5353.5	217.4	311	347	0.00	0.00	M
U-234	9	1	0	0.017	4808.0	48.4	213	221	0.00	0.00	P
U-235	6	1	0	0.011	4431.2	218.0	158	194	0.00	0.00	S
PU-236	19	43	37	-0.006	5801.0	217.2	385	421	0.00	0.00	S
NP-237	-9999	-9999	0	-10.010	4821.4	217.7	223	259	0.00	0.00	I
PU-238	-9999	-9999	0	-10.010	5532.4	217.3	340	376	0.00	0.00	M
U-238	-9999	-9999	0	-10.010	4231.4	218.1	125	161	0.00	0.00	M
PU-239	-9999	-9999	0	-10.010	5190.0	223.6	283	320	0.00	0.00	M
AM-241	-9999	-9999	0	-10.010	5519.0	217.4	338	374	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5240.2	217.5	292	328	0.00	0.00	M
CM-242	4	3	0	0.005	6146.1	42.2	459	466	0.00	0.00	P
PU-242	498	1	0	0.996	4933.9	217.7	232	268	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5308.7	217.5	303	339	0.00	0.00	M
CM-244	19	43	37	-0.006	5838.2	217.2	391	427	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5419.9	217.4	322	358	0.00	0.00	M
CM-247	498	1	0	0.996	4903.8	217.7	232	268	0.00	0.00	P
CM-248	-9999	-9999	0	-10.010	5112.0	217.6	271	307	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M081AA
Detector: ALP171 6
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	-	151	0		201	13	@	251	0	@	301	0	@	351	4	@	401
		2	0		52	0	+	102	0	-	152	0		202	14	@	252	0	@	302	0	@	352	1	@	402
0		3	0		53	0	+	103	0	-	153	1		203	18	@	253	0	@	303	0	@	353	1	@	403
0		4	0		54	0	+	104	0	-	154	0		204	17	@	254	0	@	304	0	@	354	3	@	404
0		5	0		55	1	+	105	0	-	155	1		205	21	@	255	0	@	305	0	@	355	3	@	405
0		6	0		56	0	+	106	0	-	156	0		206	13	@	256	0	@	306	0	@	356	2	@	406
0		7	0		57	0	+	107	0	-	157	1		207	8	@	257	2	@	307	0	@	357	2	@	407
0		8	0		58	0	+	108	0	@	158	0		208	13	@	258	0	@	308	0	@	358	2	@	408
0		9	0		59	0	+	109	0	@	159	0		209	15	@	259	0	@	309	1	@	359	1	@	409
0		10	0		60	0	+	110	0	@	160	0		210	14	@	260	0	@	310	0	@	360	7	@	410
0		11	0		61	0	+	111	0	@	161	0		211	11	@	261	0	@	311	0	@	361	1	@	411
0		12	0		62	1	+	112	0	+	162	0		212	13	@	262	2	@	312	0	@	362	0	@	412
0		13	0		63	0	+	113	0	+	163	0	@	213	6	@	263	0	@	313	0	@	363	0	@	413
0		14	0		64	0	+	114	1	+	164	1	@	214	9	@	264	0	@	314	0	@	364	1	@	414
0		15	0		65	0	+	115	0	+	165	0	@	215	8	@	265	0	@	315	0	@	365	0	@	415
0		16	0		66	0	+	116	0	+	166	4	@	216	9	@	266	0	@	316	0	@	366	0	@	416
0		17	0		67	0	+	117	0	+	167	1	@	217	9	@	267	0	@	317	0	@	367	0	@	417
0		18	0		68	0	+	118	0	+	168	3	@	218	5		268	0	@	318	0	@	368	0	@	418
0		19	0		69	0	+	119	0	+	169	0	@	219	16		269	0	@	319	0	@	369	0	@	419
0		20	0		70	0	+	120	0	+	170	0	@	220	5		270	0	@	320	0	@	370	0	@	420
0		21	0		71	0	+	121	0	+	171	0		221	11	+	271	0	@	321	0	@	371	0	@	421
0		22	0		72	0	+	122	0	+	172	0		222	8	+	272	0	-	322	0	@	372	0	-	422
0		23	0		73	0	+	123	0	+	173	1	+	223	4	+	273	0	@	323	0	@	373	0	-	423
0		24	0		74	0	+	124	1	+	174	1	+	224	0	+	274	1	@	324	0	@	374	0	-	424
0		25	0		75	0	@	125	1	+	175	0	+	225	12	+	275	0	@	325	1	+	375	0	-	425
0		26	0		76	0	@	126	1	+	176	0	+	226	9	+	276	1	@	326	1	+	376	0	-	426
0		27	0		77	0	@	127	1	+	177	1	+	227	6	@	277	1	@	327	0		377	0	-	427
0		28	0		78	1	@	128	1	+	178	0	+	228	4	@	278	0	@	328	0		378	0		428
0		29	0		79	0	@	129	0	+	179	1	+	229	4	@	279	0	@	329	1		379	0	@	429
0		30	0		80	0	@	130	0	+	180	1	+	230	6	@	280	0	@	330	0		380	0	@	430
0		31	0		81	0	-	131	0	+	181	3	+	231	6	@	281	0	@	331	0		381	0	@	431
0		32	0		82	0	-	132	0	+	182	3	@	232	1	@	282	0	@	332	0		382	0	@	432
0		33	2		83	0	-	133	0	+	183	3	@	233	2	@	283	0	@	333	0		383	0	@	433
0		34	0		84	0	-	134	0	+	184	5	@	234	0	@	284	1	@	334	0		384	0	@	434
0		35	0		85	0	-	135	0	+	185	10	@	235	0	@	285	0	@	335	0	+	385	0	@	435
0		36	0		86	0	-	136	0	+	186	4	@	236	0	@	286	1	@	336	0	+	386	0	@	436
0		37	0		87	0	-	137	0	+	187	8	@	237	0	@	287	0	@	337	0	+	387	0	@	437
0		38	0		88	0	-	138	0	+	188	11	@	238	0	@	288	1	@	338	0	+	388	0	@	438
0		39	0		89	0	-	139	0	+	189	12	@	239	0	@	289	0	@	339	0	+	389	0	@	439
0		40	0		90	0	-	140	0	+	190	17	@	240	0	@	290	0	@	340	0	+	390	0	@	440
1		41	0		91	0	-	141	0	+	191	20	@	241	0	@	291	0	@	341	0	@	391	0	@	441
0		42	0		92	0	-	142	0	+	192	18	@	242	0	@	292	0	@	342	1	@	392	1	@	442
0		43	0		93	0	-	143	0	+	193	26	@	243	0	@	293	0	@	343	0	@	393	0	@	443
0		44	0		94	0	-	144	0	+	194	22	@	244	1	@	294	0	@	344	0	@	394	2	@	444
0		45	0	+	95	0	-	145	0		195	35	@	245	0	@	295	0	@	345	0	@	395	0	@	445
0		46	0	+	96	0	-	146	0		196	25	@	246	1	@	296	0	@	346	2	@	396	0	@	446
0		47	0	+	97	0	-	147	0		197	20	@	247	0	@	297	0	@	347	2	@	397	0	@	447
0		48	0	+	98	0	-	148	0		198	24	@	248	0	@	298	0	@	348	0	@	398	0	@	448
0		49	0	+	99	0	-	149	0		199	15	@	249	0	@	299	0	@	349	1	@	399	0	@	449
0		50	0	+	100	0	-	150	0		200	22	@	250	0	@	300	0	@	350	3	@	400	1	@	450

Cnt	F	Chn
	2	501
	0	502
	0	503
	0	504
	0	505
	0	506
	0	507
	0	508
	0	509
	0	510
	0	511
	0	512

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:11

Configuration : $DISK1:[ALP171.SAMPLE]H8M081AA_190761626F.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID : H8M081AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3401.76 keV End energy : 6479.59 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4694.92	9	0	30.35	216.37	213	8	3.00E-04	33.3	
2	0	4878.68	498	0	103.20	246.75	232	36	1.66E-02	4.5	
3	0	6175.30	4	0	24.28	461.50	459	7	1.33E-04	50.0	
4	0	6360.17	23	0	42.49	492.18	486	19	7.67E-04	20.9	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:14

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M081AA_190761626F.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M081AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                4
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    3        75.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-242	162.80D	1.17	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M081AA_190761626F.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4694.92	213	221	9	9	0.00		
4878.67	232	268	498	516	-0.81		
6175.29	459	466	4	4	0.00		
6360.16	486	505	23	25	-0.42		

End of Report

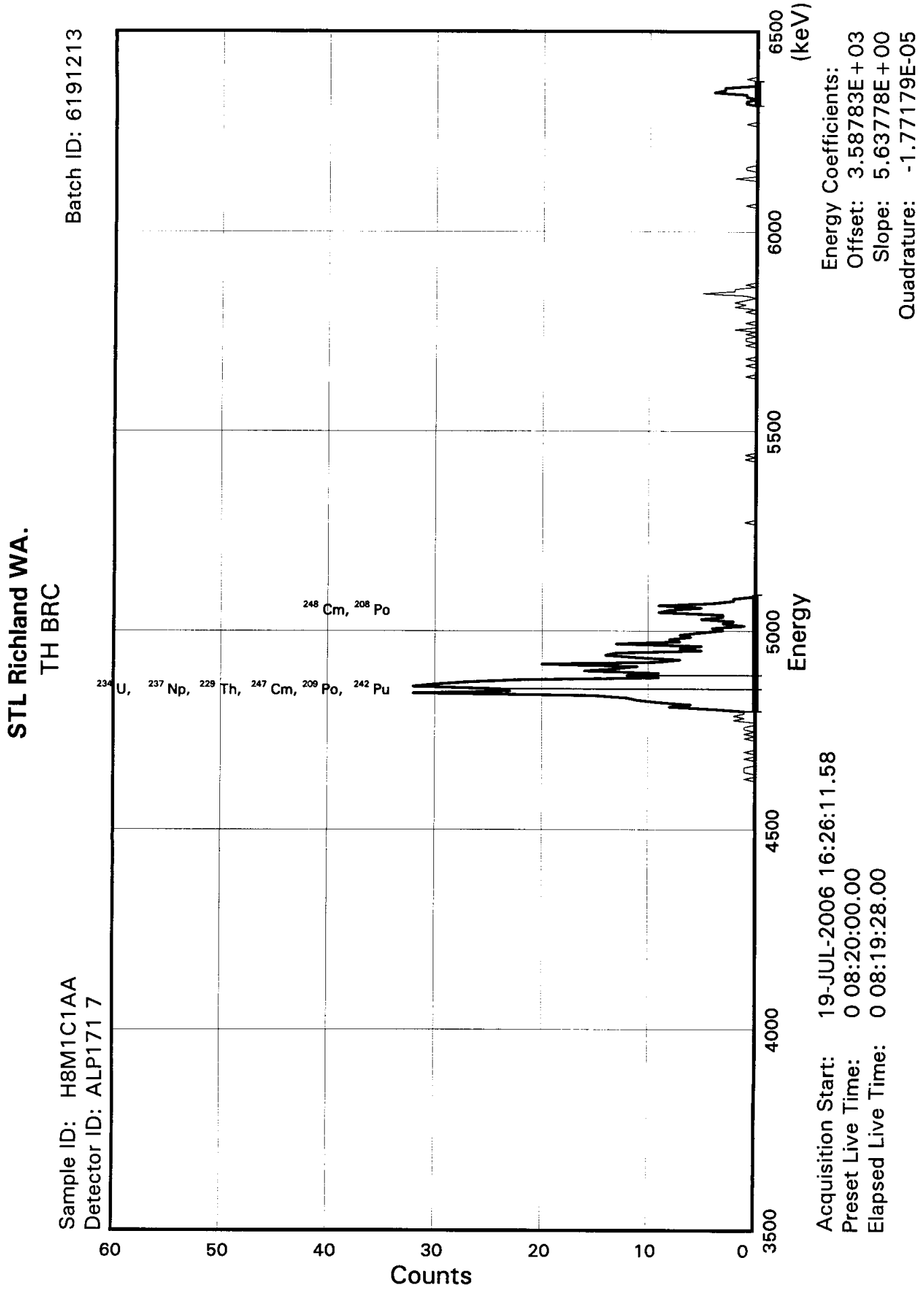
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M1C1AA

Detector: ALP171 7
Report Date: 20-Jul-06 05:51 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	1	0.003	5423.2	112.5	311	331
TH-229	533	0	1.067	4845.3	332.1	208	267
TH-230	6	0	0.012	4687.7	112.6	180	200
TH-232	0	0	0.000	4013.0	112.7	60	80

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8M1C1AA
Detector ID: ALP171 7
234U, 237Np, 229Th, 247Cm, 209Po, 242Pu
248Cm, 208Po
Counts
60
50
40
30
20
10
0
3500
4000
4500
5000
5500
6000
6500
Energy
(keV)
Acquisition Start: 19-JUL-2006 16:26:11.58
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.58783E+03
Slope: 5.63778E+00
Quadrature: -1.77179E-05

SAMPLE IDENTITY: H8M1C1AA

TITLE : TH BRC

DETECTOR : ALP171 7
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M1C1AA_190761626G.CN
F;1
ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:39

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:10:41

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3587.83 keV CONSTANT FWHM : 6.50000 Channels
SLOPE : 5.63778 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.177179E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1C1AA

Detector: ALP171 7
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	150	0	0	0.300	5123.4	236.4	225	267	0.00	0.00	P
PO-209	379	0	0	0.759	4891.7	90.1	215	231	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5312.9	90.0	297	313	0.00	0.00	M
AC-227	1	0	1	0.001	6046.5	90.0	427	443	0.00	0.00	S
TH-227	1	0	1	0.001	6046.5	90.0	427	443	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5431.7	90.0	318	334	0.00	0.00	M
TH-229	379	0	0	0.759	4853.8	90.1	215	231	0.00	0.00	P
TH-230	6	0	0	0.012	4696.2	90.1	187	203	0.00	0.00	
TH-232	0	0	0	0.000	4021.5	90.2	67	83	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5328.7	90.0	299	315	0.00	0.00	M
U-234	379	0	0	0.759	4783.1	90.1	215	231	0.00	0.00	P
U-235	0	1	0	-0.001	4406.3	90.1	136	152	0.00	0.00	
PU-236	7	9	4	0.005	5776.2	90.0	379	395	0.00	0.00	S
NP-237	379	0	0	0.759	4796.5	90.1	215	231	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5507.6	90.0	331	347	0.00	0.00	M
U-238	0	0	0	0.000	4206.5	90.1	100	116	0.00	0.00	
PU-239	0	1	0	-0.001	5165.1	90.0	270	286	0.00	0.00	S
AM-241	-9999	-9999	0	-10.010	5494.1	90.0	329	345	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5215.3	90.0	279	295	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6121.2	90.0	440	456	0.00	0.00	M
PU-242	379	0	0	0.759	4909.0	90.1	215	231	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5283.8	90.0	291	307	0.00	0.00	M
CM-244	14	40	4	-0.012	5813.3	90.0	386	402	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5395.0	90.0	311	327	0.00	0.00	M
CM-247	379	0	0	0.759	4878.9	90.1	215	231	0.00	0.00	P
CM-248	150	0	0	0.300	5087.1	236.4	225	267	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1C1AA
Detector: ALP171 7
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	+	151	0	+	201	3	@	251	0	@	301	0		351	5	-	401	0	-	451	0		501
		2	0		52	0	+	102	0	+	152	0	+	202	4	@	252	0	@	302	0		352	2	-	402	2	-	452	0		502
0		3	0		53	0	+	103	0		153	1	+	203	1	@	253	0	@	303	0		353	2		403	0	-	453	0		503
0		4	0		54	0	+	104	0		154	0		204	3	@	254	0	@	304	0		354	0		404	0	-	454	0		504
0		5	0		55	0	+	105	0		155	1		205	2	@	255	0	@	305	0		355	1		405	0	-	455	0		505
0		6	0		56	0	+	106	0		156	0		206	5	@	256	0	@	306	0		356	0		406	1	-	456	0		506
0		7	0		57	0	+	107	0		157	1		207	3	@	257	0	@	307	0		357	0		407	1		457	0		507
0		8	0		58	0	+	108	0		158	1		208	3	@	258	0	@	308	0		358	0		408	0		458	0		508
0		9	0		59	0	+	109	0		159	0		209	9	@	259	0	@	309	0		359	0		409	0		459	0		509
0		10	0		60	0	+	110	0		160	0		210	8	@	260	0	@	310	0		360	0		410	0		460	0		510
0		11	0		61	0	+	111	0		161	2		211	5	@	261	0	-	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	1		212	9	@	262	0	@	312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	0		163	2		213	4	@	263	0	@	313	0		363	0		413	0		463			
0		14	0		64	0	+	114	0		164	1		214	2	@	264	0	@	314	1		364	0		414	0		464			
0		15	0		65	0	+	115	0		165	1	@	215	2	@	265	0	@	315	0		365	0		415	0		465			
0		16	0		66	0	+	116	0		166	4	@	216	0	@	266	0	-	316	0		366	0		416	0		466			
0		17	0	+	67	0		117	0		167	8	@	217	0		267	0	-	317	0		367	0		417	0		467			
0		18	0	+	68	0		118	0		168	6	@	218	0		268	0	@	318	0		368	0		418	0		468			
0		19	0	+	69	0		119	0		169	9	@	219	0		269	0	@	319	1		369	0		419	0		469			
0		20	0	+	70	0		120	0		170	11	@	220	0	+	270	0	@	320	0		370	0		420	0		470			
0		21	0	+	71	0		121	0		171	12	@	221	0	+	271	0	@	321	0		371	0		421	0		471			
0		22	0	+	72	0		122	0		172	15	@	222	0	+	272	0	@	322	1		372	0		422	0		472			
0		23	0	+	73	0		123	0		173	32	@	223	0	+	273	0	@	323	0		373	0		423	0		473			
0		24	0	+	74	0		124	0		174	23	@	224	0	+	274	0	@	324	0		374	0		424	0		474			
0		25	0	+	75	0		125	0		175	24	-	225	0	+	275	0	@	325	0		375	0		425	0		475			
0		26	0	+	76	0		126	0		176	32	@	226	0	+	276	0	@	326	0		376	0		426	1		476			
0		27	0	+	77	0		127	0		177	30	@	227	0	+	277	1	@	327	0		377	0	@	427	0		477			
0		28	0	+	78	0		128	0		178	27	@	228	0	+	278	0	+	328	1		378	0	@	428	0		478			
0		29	0	+	79	0		129	0		179	22	@	229	0	@	279	1	@	329	0	+	379	0	@	429	0		479			
0		30	0	+	80	0		130	0		180	9	@	230	0	@	280	0	@	330	1	+	380	0	@	430	0		480			
0		31	0	+	81	0		131	0		181	12	@	231	0	@	281	0	@	331	1	+	381	0	@	431	0		481			
0		32	0	+	82	0		132	0		182	9	@	232	0	@	282	0	@	332	0	+	382	0	@	432	0		482			
0		33	0	+	83	0		133	0		183	16	@	233	0	@	283	0	@	333	1	+	383	0	@	433	0		483			
0		34	0		84	0		134	0		184	13	@	234	0	@	284	0	@	334	0	+	384	0	@	434	0		484			
0		35	0		85	0		135	1		185	11	@	235	0	@	285	0	@	335	2	+	385	0	@	435	1		485			
0		36	0		86	0	+	136	0		186	20	@	236	0	@	286	0	@	336	0	@	386	0	@	436	1		486			
0		37	0		87	0	+	137	0	+	187	9	@	237	0	-	287	0	@	337	0	@	387	0	@	437	0		487			
0		38	0		88	0	+	138	1	+	188	7	@	238	0	-	288	0	@	338	1	@	388	0	@	438	1		488			
0		39	0		89	0	+	139	1	+	189	11	@	239	0	-	289	0	@	339	0	@	389	0	@	439	1		489			
0		40	0		90	0	+	140	1	+	190	14	@	240	0	-	290	0	@	340	0	@	390	1	-	440	4		490			
0		41	0		91	0	+	141	0	+	191	13	@	241	0	@	291	0	@	341	0	@	391	0	@	441	3		491			
0		42	0		92	0	+	142	0	+	192	5	@	242	0	@	292	0	@	342	0	@	392	0	@	442	3		492			
0		43	0		93	0	+	143	0	+	193	7	@	243	0	@	293	0	@	343	1	@	393	0	@	443	0		493			
0		44	0		94	0	+	144	1	+	194	5	@	244	0	@	294	0	@	344	0	@	394	0	-	444	0		494			
0		45	0		95	0	+	145	0	+	195	13	@	245	0	@	295	0	@	345	2	@	395	0	-	445	0		495			
0		46	0		96	0	+	146	0	+	196	7	@	246	0	-	296	0	+	346	1	-	396	0	-	446	1		496			
0		47	0		97	0	+	147	1	+	197	8	@	247	0	@	297	0	+	347	2	-	397	0	-	447	0		497			
0		48	0		98	0	+	148	0	+	198	6	@	248	0	@	298	0		348	1	-	398	0	-	448	0		498			
0		49	0		99	0	+	149	0	+	199	7	@	249	1	@	299	0		349	0	-	399	0	-	449	0		499			
0		50	0	+	100	0	+	150	0	+	200	5	@	250	0	@	300	0		350	1	-	400	0	-	450	0		500			

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:17

Configuration : $DISK1:[ALP171.SAMPLE]H8M1C1AA_190761626G.CNF;1
Analyses by : ALPHA V1.8
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID : H8M1C1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Start energy : 3604.75 keV End energy : 6469.73 keV
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4853.83	379	0	45.10	224.71	215	16	1.26E-02	5.1	
2	0	5053.11	150	0	39.46	260.12	225	42	5.01E-03	8.2	
3	0	6348.90	14	0	22.55	490.50	484	11	4.67E-04	26.7	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:19

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M1C1AA_190761626G.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M1C1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Energy tolerance :    80.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

Total number of lines in spectrum	3	
Number of unidentified lines	1	
Number of lines tentatively identified by NID	2	66.67%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M1C1AA_190761626G.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4853.82	215	231	379	277	5.24		
5053.11	225	267	150	405	-20.82	156	0.13
6348.90	484	495	14	14	0.00		

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

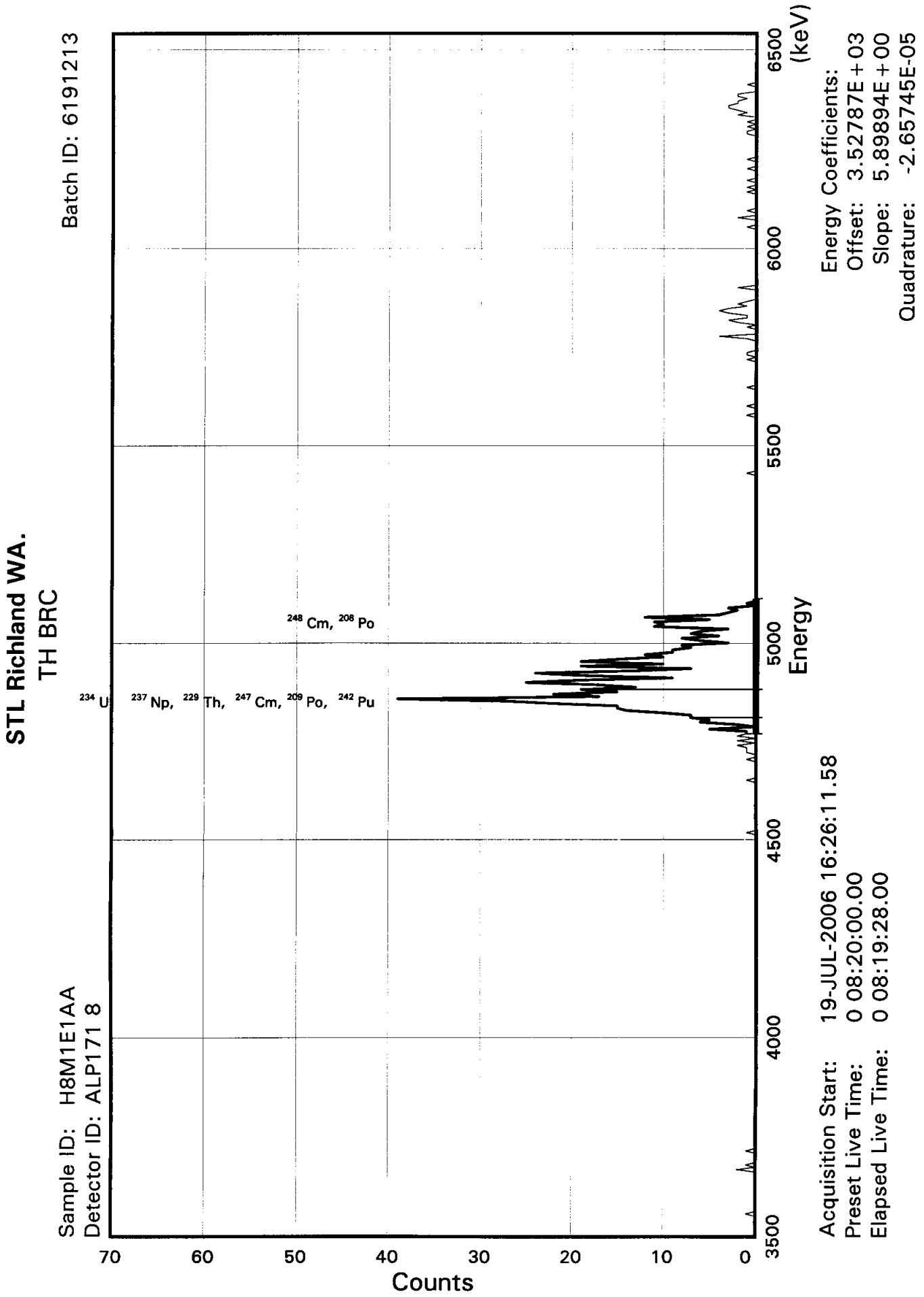
Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M1E1AA

Detector: ALP171 8
Report Date: 20-Jul-06 05:51 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	1	0.001	5423.2	117.6	307	327
TH-229	614	1	1.228	4845.3	359.1	209	270
TH-230	2	1	0.003	4687.7	117.8	182	202
TH-232	0	2	-0.002	4013.0	117.9	67	87

End of Alpha Region Report
(Produced by ANAL Report)


STL Richland WA.
TH BRC
Batch ID: 6191213
Sample ID: H8M1E1AA
Detector ID: ALP171 8
234 U
237 Np, 229 Th, 247 Cm, 209 Po, 242 Pu
248 Cm, 208 Po
Counts
70
60
50
40
30
20
10
0
Energy
3500
4000
4500
5000
5500
6000
6500
(keV)
Acquisition Start: 19-JUL-2006 16:26:11.58
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:19:28.00
Energy Coefficients:
Offset: 3.52787E+03
Slope: 5.89894E+00
Quadrature: -2.65745E-05

SAMPLE IDENTITY: H8M1E1AA

TITLE : TH BRC

DETECTOR : ALP171 8
CONFIGURATION NAME : $DISK1:[ALP171.SAMPLE]H8M1E1AA_190761626H.CN
F;1
ACQUIRE DATE of BACKGROUND: 09-JUL-2006 10:13:03

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:11 CALIB DATE : 07-JUL-2006 02:11:05

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:19:28

OFFSET : 3527.87 keV CONSTANT FWHM : 7.33333 Channels
SLOPE : 5.89894 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.265745E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1E1AA

Detector: ALP171 8
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 499 minutes
Bkgrnd Live Time: 999 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	231	1	0	0.461	5121.7	300.2	218	269	0.00	0.00	P
PO-209	384	1	0	0.768	4890.0	111.9	211	230	0.00	0.00	P
PO-210	-9999	-9999	0	-10.010	5311.2	111.8	289	308	0.00	0.00	M
AC-227	2	3	3	0.001	6044.8	111.7	414	433	0.00	0.00	S
TH-227	2	3	3	0.001	6044.8	111.7	414	433	0.00	0.00	S
TH-228	-9999	-9999	0	-10.010	5430.0	111.8	309	328	0.00	0.00	M
TH-229	384	1	0	0.768	4852.1	111.9	211	230	0.00	0.00	P
TH-230	3	1	0	0.005	4694.5	111.9	184	203	0.00	0.00	
TH-232	0	2	0	-0.002	4019.8	112.0	70	89	0.00	0.00	
U-232	-9999	-9999	0	-10.010	5326.9	111.8	292	311	0.00	0.00	M
U-234	384	1	0	0.768	4781.4	111.9	211	230	0.00	0.00	P
U-235	0	0	0	0.000	4404.6	111.9	135	154	0.00	0.00	
PU-236	5	7	8	0.004	5774.4	111.7	368	387	0.00	0.00	S
NP-237	384	1	0	0.768	4794.8	111.9	211	230	0.00	0.00	P
PU-238	-9999	-9999	0	-10.010	5505.8	111.7	322	341	0.00	0.00	M
U-238	0	1	0	-0.001	4204.8	112.0	101	120	0.00	0.00	
PU-239	-9999	-9999	0	-10.010	5163.4	111.8	264	283	0.00	0.00	S I
AM-241	-9999	-9999	0	-10.010	5492.4	111.7	320	339	0.00	0.00	M
AM-242M	-9999	-9999	0	-10.010	5213.6	111.8	272	291	0.00	0.00	M
CM-242	-9999	-9999	0	-10.010	6119.5	117.5	426	446	0.00	0.00	M
PU-242	384	1	0	0.768	4907.3	111.9	211	230	0.00	0.00	P
AM-243	-9999	-9999	0	-10.010	5282.1	111.8	284	303	0.00	0.00	M
CM-244	18	35	8	0.002	5811.6	111.7	374	393	0.00	0.00	S
CM-246	-9999	-9999	0	-10.010	5393.3	111.8	303	322	0.00	0.00	M
CM-247	384	1	0	0.768	4877.2	111.9	211	230	0.00	0.00	P
CM-248	231	1	0	0.461	5085.4	300.2	218	269	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1E1AA
Detector: ALP171 8
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:11.58

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0	+	101	0	+	151	0	+	201	6	@	251	0	@	301	0		351	0		401	0		451	0		501
		2	0		52	0	+	102	0	+	152	0	+	202	8	@	252	0	@	302	1		352	0		402	0		452	0		502
0		3	0		53	0	+	103	0	+	153	1	+	203	4	@	253	0	-	303	0		353	2		403	0		453	0		503
0		4	0		54	0	+	104	0	+	154	1		204	7	@	254	0	@	304	0		354	0		404	1		454	0		504
1		5	0		55	0	+	105	0		155	1		205	6	@	255	0	@	305	0		355	0		405	0		455	0		505
0		6	0		56	0	+	106	0		156	2		206	3	@	256	0	@	306	0		356	0		406	0		456	0		506
0		7	0		57	0	+	107	0		157	0		207	11	@	257	0	@	307	0		357	0		407	0		457	0		507
0		8	0		58	0	+	108	0		158	2		208	10	@	258	0	@	308	0		358	0		408	1		458	0		508
0		9	0		59	0	+	109	0		159	0		209	11	@	259	0	@	309	0		359	0		409	0		459	0		509
0		10	0		60	0	+	110	0		160	2		210	5	@	260	0	@	310	1		360	0		410	0		460	0		510
0		11	0		61	0	+	111	0		161	1	@	211	12	@	261	0	@	311	0		361	0		411	0		461	0		511
0		12	0		62	0	+	112	0		162	1	@	212	4	@	262	0	@	312	0		362	0		412	0		462	0		512
0		13	0		63	0	+	113	0		163	5	@	213	3	@	263	0	@	313	0		363	0		413	0		463			
0		14	0		64	0	+	114	0		164	0	@	214	2	@	264	0	@	314	0		364	0	@	414	0		464			
0		15	0		65	0	+	115	0		165	2	@	215	3	@	265	0	@	315	0		365	0	@	415	0		465			
0		16	0		66	0	+	116	0		166	6	@	216	0	@	266	0	@	316	0		366	0	@	416	0		466			
0		17	0		67	0	+	117	0		167	5	@	217	1	@	267	0	@	317	0		367	0	@	417	0		467			
0		18	0		68	0	+	118	1		168	7	-	218	0	@	268	0	@	318	0	+	368	0	@	418	0		468			
0		19	0		69	0	+	119	0		169	7	@	219	0	+	269	0	@	319	0	+	369	0	@	419	1		469			
0		20	0	+	70	0	+	120	0		170	10	@	220	0	+	270	0	@	320	0	+	370	0	@	420	1		470			
0		21	0	+	71	0		121	0		171	14	@	221	0	+	271	0	@	321	0	+	371	0	@	421	0		471			
0		22	0	+	72	0		122	0		172	15	@	222	0	@	272	0	@	322	1	+	372	0	@	422	1		472			
0		23	0	+	73	0		123	0		173	15	@	223	0	@	273	1	@	323	0	+	373	0	@	423	0		473			
2		24	0	+	74	0		124	0		174	22	@	224	0	@	274	0	@	324	1	@	374	0	@	424	1		474			
0		25	0	+	75	0		125	0		175	27	@	225	0	@	275	0	@	325	1	@	375	0	@	425	0		475			
1		26	0	+	76	0		126	0		176	39	@	226	0	@	276	0	@	326	0	@	376	0	-	426	0		476			
0		27	0	+	77	0		127	0		177	17	@	227	0	@	277	0	@	327	0	@	377	0	@	427	2		477			
0		28	0	+	78	0		128	0		178	22	@	228	0	@	278	0	@	328	0	@	378	0	@	428	1		478			
0		29	0	+	79	0		129	0		179	15	@	229	0	@	279	0	@	329	0	@	379	1	@	429	2		479			
0		30	0	+	80	0		130	0		180	19	@	230	0	@	280	0	@	330	0	@	380	0	@	430	3		480			
0		31	0	+	81	0		131	0		181	13	@	231	0	@	281	0	@	331	1	@	381	0	@	431	3		481			
1		32	0	+	82	0		132	0		182	17	@	232	0	@	282	0	@	332	4	@	382	0	@	432	2		482			
0		33	0	+	83	0		133	0		183	25	@	233	0	@	283	0	@	333	0	@	383	2	@	433	2		483			
0		34	0	+	84	0		134	0	+	184	19	@	234	0	@	284	0	@	334	0	@	384	0	-	434	1		484			
0		35	0	+	85	0	+	135	0	+	185	9	@	235	0	@	285	0	@	335	0	@	385	0	-	435	2		485			
0		36	0	+	86	0	+	136	0	+	186	19	@	236	0	@	286	0	@	336	1	@	386	1	-	436	2		486			
0		37	0	+	87	0	+	137	0	+	187	24	@	237	0	@	287	0	@	337	0	@	387	0	-	437	0		487			
0		38	0	+	88	0	+	138	0	+	188	13	@	238	0	@	288	0	@	338	2	-	388	0	-	438	0		488			
0		39	0	+	89	0	+	139	0	+	189	7	@	239	0	@	289	0	@	339	3	-	389	0	-	439	0		489			
0		40	0		90	0	+	140	0	+	190	19	@	240	0	@	290	0	+	340	1	-	390	0	-	440	1		490			
0		41	0		91	0	+	141	1	+	191	10	@	241	0	@	291	0	+	341	1	-	391	0	-	441	0		491			
0		42	0		92	0	+	142	0	+	192	19	@	242	0	@	292	0		342	3	-	392	0	-	442	0		492			
0		43	0		93	0	+	143	0	+	193	15	@	243	0	@	293	0		343	4	-	393	0	-	443	0		493			
0		44	0		94	0	+	144	0	+	194	10	@	244	0	@	294	0		344	3		394	1	-	444	0		494			
0		45	0		95	0	+	145	0	+	195	12	@	245	0	@	295	0		345	1		395	0	-	445	0		495			
0		46	0		96	0	+	146	0	+	196	9	@	246	0	@	296	0		346	2		396	1	-	446	0		496			
0		47	0		97	0	+	147	0	+	197	9	@	247	0	@	297	0		347	1		397	0		447	0		497			
0		48	0		98	0	+	148	0	+	198	7	@	248	0	@	298	1		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0	+	199	8	@	249	0	@	299	0		349	0		399	1		449	0		499			
0		50	0		100	0	+	150	1	+	200	3	@	250	0	@	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:21

```
Configuration     : $DISK1:[ALP171.SAMPLE]H8M1E1AA_190761626H.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID         : H8M1E1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP171 1             Detector geometry:
Elapsed live time: 0 08:19:28.00         Elapsed real time: 0 08:19:28.00   0.0%
Start energy      :  3545.57 keV         End energy       :  6541.16 keV
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4852.08	384	0	35.39	224.71	211	19	1.28E-02	5.1	
2	0	5051.08	231	0	35.39	258.52	218	51	7.71E-03	6.6	

VMS Nuclide Identification Report V3.0 Generated 20-JUL-2006 00:47:24

Configuration : $DISK1:[ALP171.SAMPLE]H8M1E1AA_190761626H.CNF;1
Analyses by : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title : TH BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:11
Sample ID : H8M1E1AA Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP171 1 Detector geometry:
Elapsed live time: 0 08:19:28.00 Elapsed real time: 0 08:19:28.00 0.0%
Energy tolerance : 80.00 keV Half life ratio : 1.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Spline Efficiencies at : Peak Energy
Abundance limit : 70.00

Summary of Nuclide Activity

Total number of lines in spectrum 2
Number of unidentified lines 0
Number of lines tentatively identified by NID 2 100.00%

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-208	2.90Y	1.02	0.000E+00	0.000E+00	0.000E+00	0.00	
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-248	3.39E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP171.SAMPLE]H8M1E1AA_190761626H.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4852.07	211	230	384	249	6.89		
5051.08	218	269	231	592	-23.75	229	0.12

***** WARNING: Possible PEAK/ALPHA Error *****
Review Spectrum on Screen

End of Report

SEVERN TRENT **STL**

THORIUM ISOTOPIC COUNTING REQUEST

C.R. Technician: OAD
Date Counted: 7/19/06
C.R. Analyst: CO
Date Analyzed: 7/20/06

Counting Time
Sample: 500 Minutes

Background: See Alpha Analysis Report
BRC 6/12/06

SOP's
Operating: RICHRD008
Review: RICHRD0016
6/9/12/13

WorkOrder #	Th-229 (4845 KeV) Tracer from Th-234 Beta Count (7)				TOTAL COUNTS			Det #	Comment
	ID	Activity	ROI Cts	BKG	Th-228 (5423 KeV) (6)	Th-230 (4688 KeV) (8)	Th-232 (4010 KeV) (9)		
H8MIGIAA		10		0	See Alpha Analysis Report for ROI Information			119	
H8WINIAA		10		0	See Alpha Analysis Report for ROI Information			120	
H8WINIAC		10		0	See Alpha Analysis Report for ROI Information			116	
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				
		10		0	See Alpha Analysis Report for ROI Information				

Comments:

Form No: RC-012, 10/02, Rev 9

Approved by: S

Date: 7/20/06

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8M1G1AA

Detector: ALP119 1
Report Date: 20-Jul-06 05:51 AM
Acquire Date: 19-JUL-2006 16:26:45.37
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	2	2	0.002	5423.2	148.6	330	350
TH-229	478	1	0.955	4845.3	380.1	253	304
TH-230	11	0	0.022	4687.7	149.3	231	251
TH-232	0	0	0.000	4013.0	150.1	141	161

End of Alpha Region Report
(Produced by ANAL Report)

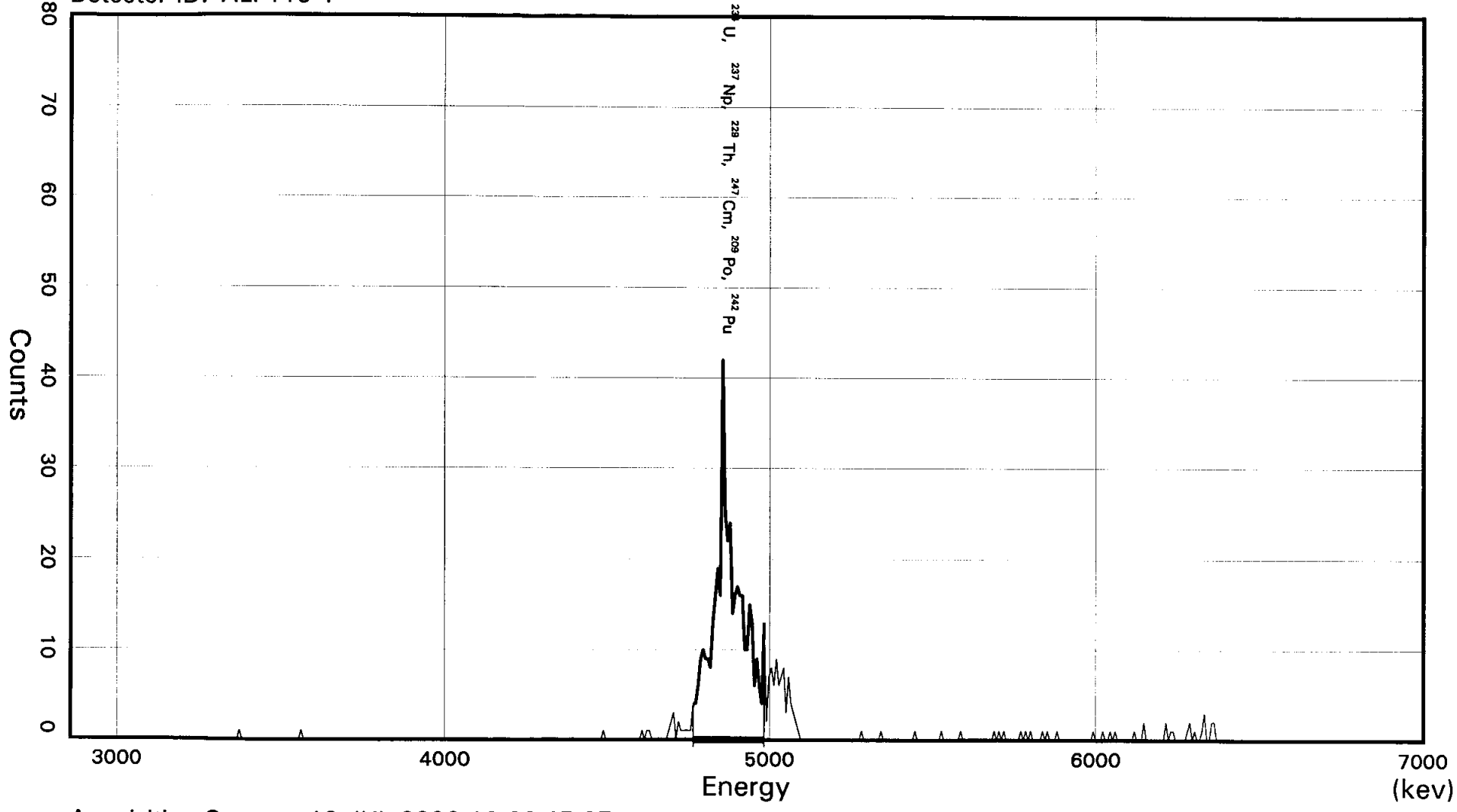
STL Richland WA.

TH BRC

Sample ID: H8M1G1AA

Detector ID: ALP119 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:26:45.37

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:02.00

Energy Coefficients:

Offset: 2.83644E+03

Slope: 7.56232E+00

Quadrature: -1.97420E-04

SAMPLE IDENTIITY: H8M1G1AA

TITLE : TH BRC

DETECTOR : ALP119 1
CONFIGURATION NAME : RDND06$DKA100:[ALP119.SAMPLE]H8M1G1AA_190761
626.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:44

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:45 CALIB DATE : 22-JUN-2006 09:30:26

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:02

OFFSET : 2836.44 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.56232 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.197420E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1G1AA

Detector: ALP119 1
Report Date: 20-Jul-06 12:46 AM
Acquire Date: 19-JUL-2006 16:26:45.37
Tracer Nuclide: TH-229
High Counts Limit: 36
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
PO-208	-9999	-9999	0	-9.998	5144.0	215.8	293	322	0.00	0.00	M
PO-209	396	0	0	0.792	4912.3	216.2	257	286	0.00	0.00	P
PO-210	-9999	-9999	0	-9.998	5333.5	215.5	319	348	0.00	0.00	M
AC-227	5	5	5	0.004	6067.2	214.4	418	447	0.00	0.00	S
TH-227	5	5	5	0.004	6067.2	214.4	418	447	0.00	0.00	S
TH-228	-9999	-9999	0	-9.998	5452.3	215.3	335	364	0.00	0.00	M
TH-229	396	0	0	0.792	4874.4	216.2	257	286	0.00	0.00	P
TH-230	-9999	-9999	0	-9.998	4716.8	216.4	236	265	0.00	0.00	I
TH-232	0	0	0	0.000	4042.1	217.5	146	175	0.00	0.00	S
U-232	-9999	-9999	0	-9.998	5349.3	215.5	321	350	0.00	0.00	M
U-234	396	0	0	0.792	4803.7	216.2	257	286	0.00	0.00	P
U-235	1	0	0	0.002	4426.9	216.9	197	226	0.00	0.00	S
PU-236	6	11	6	0.002	5796.8	214.8	381	410	0.00	0.00	S
NP-237	396	0	0	0.792	4817.1	216.2	257	286	0.00	0.00	P
PU-238	-9999	-9999	0	-9.998	5528.2	215.2	345	374	0.00	0.00	M
U-238	-9999	-9999	0	-9.998	4227.1	217.2	170	199	0.00	0.00	M
PU-239	-9999	-9999	0	-9.998	5185.7	215.7	299	328	0.00	0.00	M
AM-241	-9999	-9999	0	-9.998	5514.7	215.2	343	372	0.00	0.00	M
AM-242M	-9999	-9999	0	-9.998	5235.9	215.6	306	335	0.00	0.00	M
CM-242	-9999	-9999	0	-9.998	6141.9	214.2	428	457	0.00	0.00	M
PU-242	396	0	0	0.792	4929.6	216.2	257	286	0.00	0.00	P
AM-243	-9999	-9999	0	-9.998	5304.4	215.5	315	344	0.00	0.00	M
CM-244	3	8	6	-0.001	5834.0	214.7	386	415	0.00	0.00	S
CM-246	-9999	-9999	0	-9.998	5415.6	215.4	330	359	0.00	0.00	M
CM-247	396	0	0	0.792	4899.5	216.2	257	286	0.00	0.00	P
CM-248	-9999	-9999	0	-9.998	5107.7	215.8	288	317	0.00	0.00	M

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1G1AA
Detector: ALP119 1
Report Date: 20-Jul-06 12:46 AM
Acquire Date: 19-JUL-2006 16:26:45.37

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0	+	201	2	+	251	0	@	301	0	@	351	1	@	401	0	-	451
		2	0		52	0		102	0	+	152	0	+	202	1	+	252	0	@	302	0	@	352	0	@	402	2	-	452
0		3	0		53	0		103	0	+	153	0	+	203	1	+	253	0	@	303	0	@	353	1	@	403	0	-	453
0		4	0		54	0		104	0	+	154	0	+	204	1	+	254	0	@	304	0	@	354	0	@	404	1	-	454
0		5	0		55	0		105	0	+	155	0	+	205	1	+	255	0	@	305	0	@	355	0	@	405	1	-	455
0		6	0		56	0		106	0	+	156	0	+	206	1	+	256	0	@	306	0	@	356	0	@	406	0	-	456
0		7	0		57	0		107	0	+	157	0	+	207	4	@	257	0	@	307	0	@	357	1	@	407	0	-	457
0		8	0		58	0		108	0	+	158	0	+	208	4	@	258	0	@	308	0	@	358	0	@	408	0		458
0		9	0		59	0		109	0	+	159	0	+	209	6	@	259	0	@	309	1	@	359	0	@	409	0		459
0		10	0		60	0		110	0	+	160	0	+	210	9	@	260	0	@	310	0	@	360	0	@	410	0		460
0		11	0		61	0		111	0	+	161	0	+	211	10	@	261	0	@	311	0	@	361	0	-	411	1		461
0		12	0		62	0		112	0	+	162	0	+	212	9	@	262	0	@	312	0	@	362	0	-	412	2		462
0		13	0		63	0		113	0	+	163	0	+	213	9	@	263	0	@	313	0	@	363	0	-	413	0		463
0		14	0		64	0		114	0	+	164	0	+	214	8	@	264	0	@	314	0	@	364	0	-	414	1		464
0		15	0		65	0		115	0	+	165	0	+	215	13	@	265	0	@	315	0	@	365	0	-	415	0		465
0		16	0		66	0		116	0	+	166	0	+	216	16	@	266	0	@	316	0	@	366	0		416	0		466
0		17	0		67	0		117	0	+	167	0	+	217	19	@	267	0	@	317	1	@	367	0		417	1		467
0		18	0		68	0		118	0	+	168	0	+	218	16	@	268	0	@	318	0	@	368	0	@	418	3		468
0		19	0		69	0		119	0	+	169	0	+	219	42	@	269	0	@	319	0	@	369	0	@	419	0		469
0		20	0		70	0		120	0	@	170	1	+	220	25	@	270	0	@	320	0	@	370	0	@	420	0		470
0		21	1		71	0		121	0	@	171	0	+	221	22	@	271	0	@	321	0	@	371	0	@	421	2		471
0		22	0		72	0		122	0	@	172	0	+	222	24	@	272	0	@	322	0	@	372	1	@	422	2		472
0		23	0		73	0		123	0	@	173	0	+	223	14	@	273	0	@	323	0	+	373	0	@	423	0		473
0		24	0		74	0		124	0	@	174	0	+	224	16	@	274	0	@	324	0	+	374	0	@	424	0		474
0		25	0		75	0		125	0	@	175	0	+	225	17	@	275	0	@	325	0		375	0	@	425	0		475
0		26	0		76	0		126	0	-	176	0	+	226	16	@	276	1	@	326	0		376	1	@	426	0		476
0		27	0		77	0		127	0	-	177	0		227	16	@	277	0	@	327	0		377	0	@	427	0		477
0		28	0		78	0		128	0	-	178	0		228	10	@	278	0	@	328	0		378	0	-	428	0		478
0		29	0		79	0		129	0	-	179	0		229	10	@	279	0	@	329	0		379	1	@	429	0		479
0		30	0		80	0		130	0	-	180	0		230	15	@	280	0	-	330	0		380	0	@	430	0		480
0		31	0		81	0		131	0	-	181	0		231	13	@	281	0	@	331	1	+	381	1	@	431	0		481
0		32	0		82	0		132	0	-	182	0		232	6	@	282	0	@	332	0	+	382	0	@	432	0		482
0		33	0		83	0		133	0	-	183	0		233	9	@	283	0	@	333	1	+	383	0	@	433	0		483
0		34	0		84	0		134	0	-	184	0		234	6	@	284	1	@	334	0	+	384	0	@	434	0		484
0		35	0		85	0		135	0	-	185	0		235	4	@	285	0	@	335	1	+	385	0	@	435	0		485
0		36	0		86	0		136	0	-	186	1	+	236	13		286	0	@	336	0	@	386	0	@	436	0		486
0		37	0		87	0		137	0	-	187	0	+	237	2		287	0	@	337	0	@	387	0	@	437	0		487
0		38	0		88	0		138	0	-	188	1	+	238	7	+	288	0	@	338	0	@	388	0	@	438	0		488
0		39	0		89	0		139	0	-	189	1	+	239	8	+	289	0	@	339	0	@	389	1	@	439	0		489
0		40	0		90	0		140	0	-	190	0	+	240	6	+	290	0	@	340	0	@	390	0	@	440	0		490
0		41	0		91	0		141	0	-	191	0	+	241	9	+	291	0	@	341	0	@	391	0	@	441	0		491
0		42	0		92	0		142	0	-	192	0	+	242	6	+	292	0	@	342	1	@	392	0	@	442	0		492
0		43	0		93	0		143	0	-	193	0	+	243	7	@	293	0	@	343	0	@	393	2	@	443	0		493
0		44	0		94	0		144	0	-	194	0	+	244	8	@	294	0	@	344	1	@	394	0	@	444	0		494
0		45	0		95	0		145	0	-	195	0	+	245	3	@	295	0	@	345	0	@	395	0	@	445	0		495
0		46	1		96	0	+	146	0	-	196	0	+	246	7	@	296	0	@	346	1	@	396	0	@	446	0		496
0		47	0		97	0	+	147	0	@	197	1	+	247	4	@	297	0	@	347	0	@	397	0	@	447	0		497
0		48	0		98	0	+	148	0	@	198	2	+	248	3	@	298	1	@	348	0	@	398	0	-	448	0		498
0		49	0		99	0	+	149	0	@	199	3	+	249	2	@	299	0	@	349	0	@	399	0	-	449	0		499
0		50	0		100	0	+	150	0	+	200	0	+	250	1	@	300	0	@	350	0	@	400	0	-	450	0		500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:46:49

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H8M1G1AA_190761626.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:45
Sample ID         : H8M1G1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Start energy      :  2859.13 kev         End energy       :  6656.60 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4874.44	396	0	98.31	271.42	257	29	1.32E-02	5.0	

VMS Nuclide Identification Report V3.1 Generated 20-JUL-2006 00:46:51

```
Configuration     : RDND06$DKA100:[ALP119.SAMPLE]H8M1G1AA_190761626.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:45
Sample ID         : H8M1G1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP119               Detector geometry:
Elapsed live time: 0 08:20:02.00         Elapsed real time: 0 08:20:02.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                 1
 Number of unidentified lines                      0
 Number of lines tentatively identified by NID     1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
PO-209	102.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-229	7340.00Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
NP-237	2.14E+06Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
PU-242	3.73E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
CM-247	1.56E+07Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			

```
   Grand Total Activity :  0.000E+00    0.000E+00
```

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP119.SAMPLE]H8M1G1AA_190761626.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4874.44	257	286	396	401	-0.25		

End of Report

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8W1N1AA

Detector: ALP120 1
Report Date: 20-Jul-06 05:52 AM
Acquire Date: 19-JUL-2006 16:26:58.30
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	3	4	0.002	5423.2	147.7	332	352
TH-229	135	1	0.269	4845.3	354.7	258	306
TH-230	2	1	0.003	4687.7	147.8	232	252
TH-232	0	0	0.000	4013.0	147.8	141	161

End of Alpha Region Report
(Produced by ANAL Report)

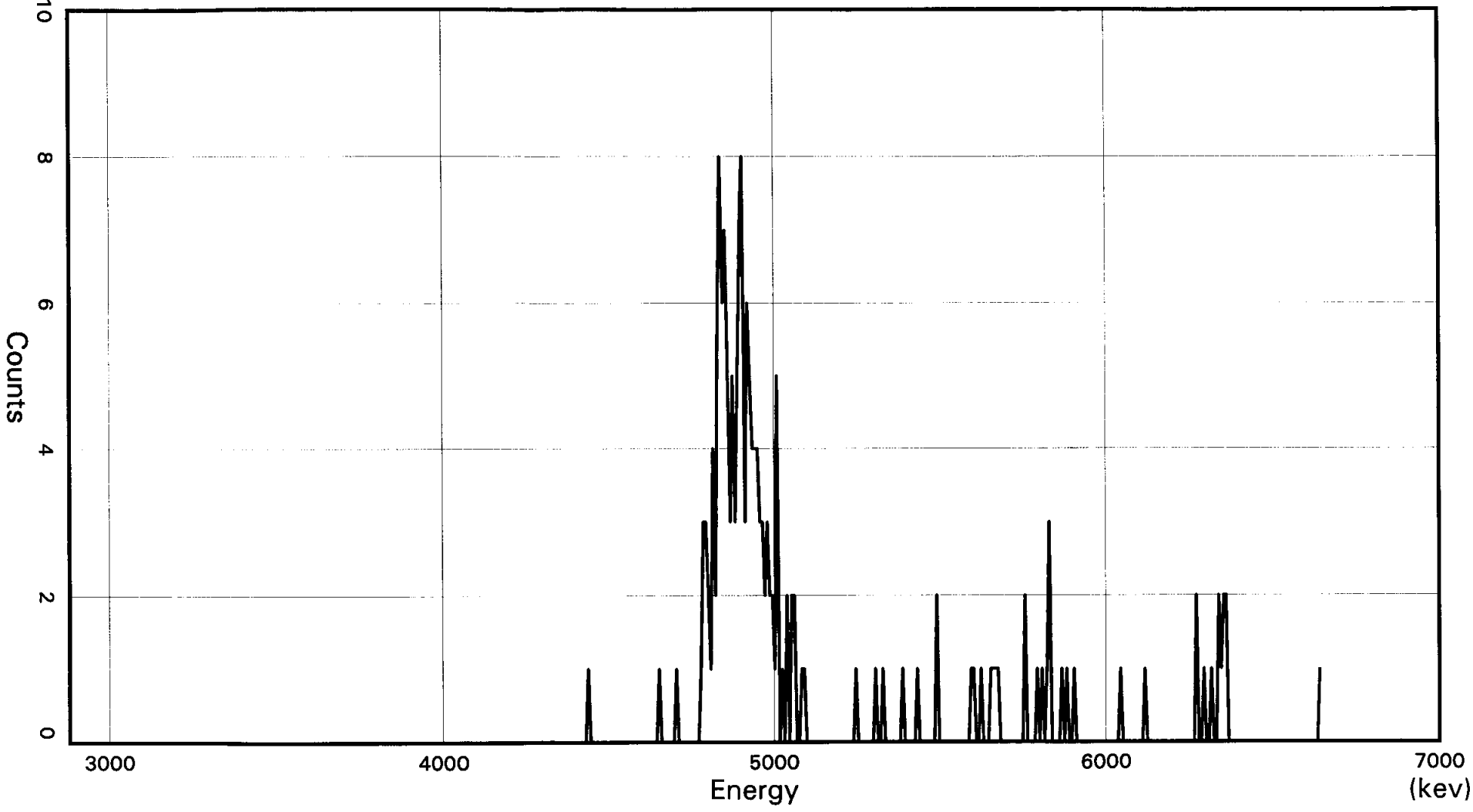
STL Richland WA.

TH BRC

Sample ID: H8W1N1AA

Detector ID: ALP120 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:26:58.30

Preset Live Time: 0 08:20:00.00

Elapsed Live Time: 0 08:20:07.00

Energy Coefficients:

Offset: 2.85851E+03

Slope: 7.39562E+00

Quadrature: -1.24203E-05

SAMPLE IDENTIITY: H8W1N1AA

TITLE : TH BRC

DETECTOR : ALP120 1
CONFIGURATION NAME : RDND06$DKA100:[ALP120.SAMPLE]H8W1N1AA_190761
626.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:46

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:26:58 CALIB DATE : 22-JUN-2006 09:30:33

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:07

OFFSET : 2858.51 keV CONSTANT FWHM : 9.66667 Channels
SLOPE : 7.39562 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.124203E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8W1N1AA
Detector: ALP120 1
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:26:58.30

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	1		301	0		351	1		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	1		302	0		352	3		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	2		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	1		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	0		309	0		359	1		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	1		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	3		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0		212	3		262	0		312	0		362	1		412	2		462	1		512
0		13	0		63	0		113	0		163	0		213	2		263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	1		214	1		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	4		265	0		315	0		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	2		266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	6		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	8		268	0		318	0		368	0		418	1		468			
0		19	0		69	0		119	0		169	0		219	6		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	7		270	0		320	1		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	5		271	0		321	1		371	0		421	2		471			
0		22	0		72	0		122	0		172	0		222	3		272	0		322	0		372	0		422	1		472			
0		23	0		73	0		123	0		173	0		223	5		273	1		323	0		373	0		423	2		473			
0		24	0		74	0		124	0		174	0		224	3		274	0		324	1		374	0		424	2		474			
0		25	0		75	0		125	0		175	0		225	5		275	0		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	7		276	0		326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	8		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	3		278	0		328	1		378	0		428	0		478			
0		29	0		79	0		129	0		179	0		229	6		279	0		329	1		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	5		280	0		330	1		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	4		281	1		331	1		381	1		431	0		481			
0		32	0		82	0		132	0		182	0		232	4		282	0		332	0		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	4		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	3		284	1		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	3		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	2		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	3		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	2		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	2		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	1		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	5		291	0		341	0		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	1		342	2		392	0		442	0		492			
0		43	0		93	0		143	0		193	1		243	1		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	2		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	2		297	0		347	1		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	2		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	1		399	0		449	0		499			

0 50 0 100 0 150 0 200 1 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:08

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H8W1N1AA_190761626.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:58
Sample ID         : H8W1N1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:07.00         Elapsed real time: 0 08:20:07.00   0.0%
Start energy      :  2880.70 kev         End energy       :  6641.81 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
No peaks were found
```

VMS Nuclide Identification Report V3.1 Generated 20-JUL-2006 00:47:09

```
Configuration     : RDND06$DKA100:[ALP120.SAMPLE]H8W1N1AA_190761626.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:26:58
Sample ID         : H8W1N1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP120               Detector geometry:
Elapsed live time: 0 08:20:07.00         Elapsed real time: 0 08:20:07.00   0.0%
Energy tolerance :   100.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :     0.00
```

Summary of Nuclide Activity

**** There are no nuclides meeting summary criteria ****

```
Flags: "K" = Keyline not found          "M" = Manually accepted
       "E" = Manually edited            "A" = Nuclide specific abn. limit
```

```
  Error Report  (Date: 20-Jul-06  12:47 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

Alpha Analysis Report
(Version: 7-Feb-98)

Sample Identity: H8W1N1AC

Detector: ALP116 1
Report Date: 20-Jul-06 05:52 AM
Acquire Date: 19-JUL-2006 16:27:13.14
Tracer Nuclide: TH-229
Sample Live Time: 500 minutes
Bkgrnd Live Time: 1000 minutes

Nuclide Name	Smpl Count	Bkg Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl
TH-228	1	3	-0.001	5423.2	149.6	326	346
TH-229	286	0	0.572	4845.3	345.2	254	300
TH-230	316	0	0.632	4687.7	188.1	223	248
TH-232	1	0	0.002	4013.0	151.2	139	159

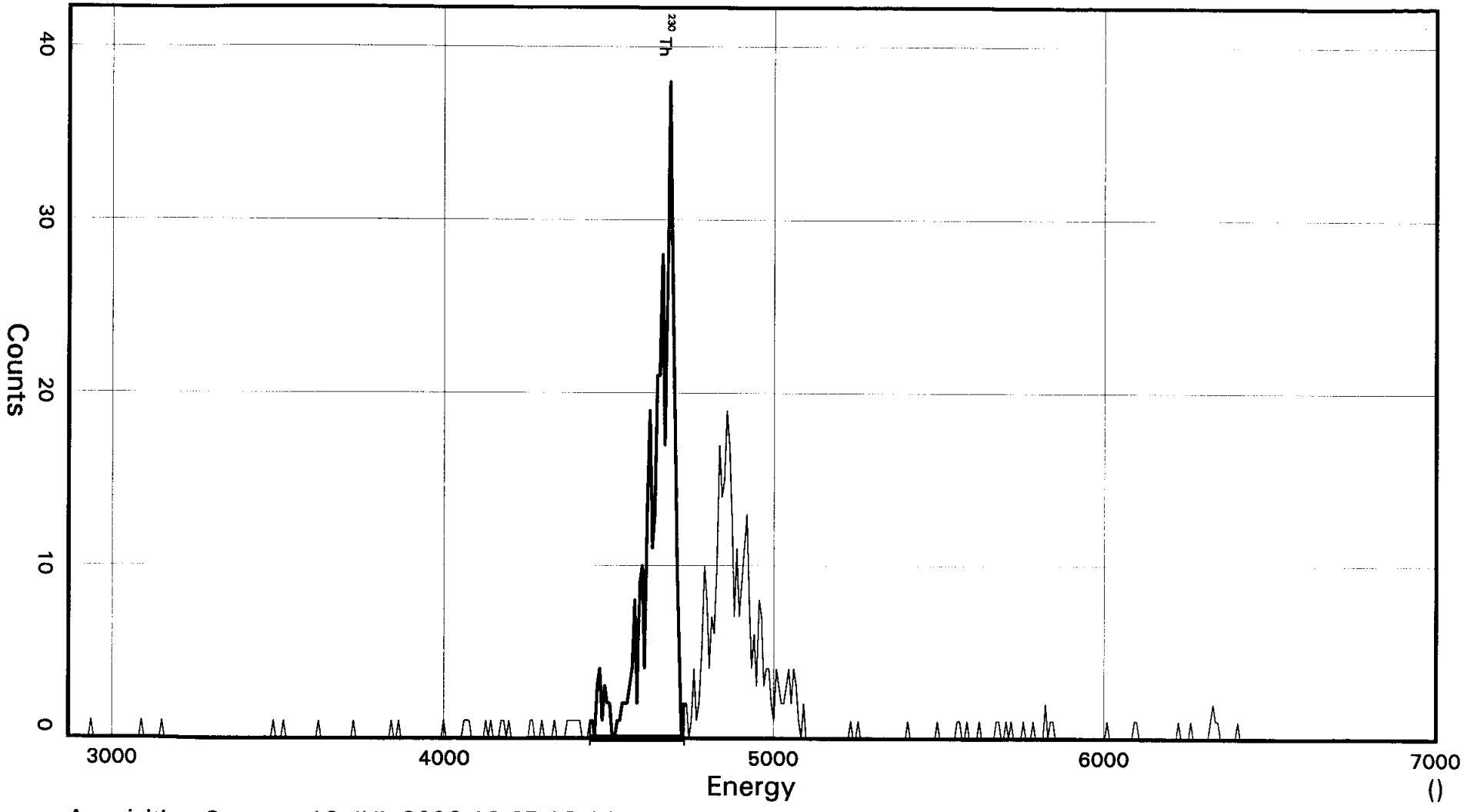
End of Alpha Region Report
(Produced by ANAL Report)

STL Richland WA.

TH BRC

Sample ID: H8W1N1AC
Detector ID: ALP116 1

Batch ID: 6191213



Acquisition Start: 19-JUL-2006 16:27:13.14
Preset Live Time: 0 08:20:00.00
Elapsed Live Time: 0 08:20:08.00

Energy Coefficients:
Offset: 2.84555E+03
Slope: 7.62237E+00
Quadrature: -2.12519E-04

SAMPLE IDENTIITY: H8W1N1AC

TITLE : TH BRC

DETECTOR : ALP116 1
CONFIGURATION NAME : RDND06$DKA100:[ALP116.SAMPLE]H8W1N1AC_190761
627.CNF;1
ACQUIRE DATE of BACKGROUND: 22-JUN-2006 10:15:09

REPORT DATE : 20-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 19-JUL-2006 16:27:13 CALIB DATE : 22-JUN-2006 09:30:10

PRESET LIVE TIME: 0 08:20:00 ELAPSED LIVE TIME: 0 08:20:08

OFFSET : 2845.55 keV CONSTANT FWHM : 8.83333 Channels
SLOPE : 7.62237 keV/C SENSITIVITY : 6.00000 Std Dev's
QUAD COEFF : -.212519E-03 keV/C^2 SUM SENSITIVITY: 0.10000 %

Alpha Spectrum Listing
for Spectra Not Processed by Alp_rgn_cnts
(Version: 29-Jun-92)

Sample Identity: H8W1N1AC
Detector: ALP116 1
Report Date: 20-Jul-06 12:47 AM
Acquire Date: 19-JUL-2006 16:27:13.14

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	1		351	0		401	0		451	0		501
		2	0		52	1		102	1		152	1		202	1		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	1		203	4		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	1		204	1		254	0		304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0		155	1		205	2		255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	1		206	5		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	1		207	10		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	8		258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	4		259	0		309	1		359	0		409	0		459	0		509
0		10	0		60	0		110	1		160	0		210	7		260	0		310	1		360	0		410	0		460	0		510
0		11	0		61	0		111	1		161	1		211	6		261	0		311	0		361	0		411	0		461	0		511
1		12	0		62	0		112	1		162	1		212	10		262	0		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	17		263	0		313	1		363	0		413	2		463			
0		14	0		64	0		114	0		164	3		214	14		264	0		314	0		364	0		414	1		464			
0		15	0		65	0		115	0		165	4		215	15		265	0		315	0		365	0		415	1		465			
0		16	0		66	1		116	0		166	1		216	19		266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	3		217	17		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	2		218	13		268	0		318	1		368	0		418	0		468			
0		19	0		69	0		119	1		169	2		219	7		269	1		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	11		270	0		320	0		370	1		420	0		470			
0		21	0		71	0		121	1		171	0		221	7		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	1		222	9		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	1		223	11		273	0		323	0		373	0		423	1		473			
0		24	0		74	0		124	0		174	2		224	13		274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	1		175	2		225	8		275	0		325	1		375	0		425	0		475			
0		26	0		76	0		126	1		176	2		226	4		276	0		326	1		376	0		426	0		476			
0		27	0		77	0		127	0		177	3		227	6		277	0		327	0		377	0		427	0		477			
0		28	0		78	0		128	1		178	4		228	3		278	0		328	0		378	0		428	0		478			
0		29	0		79	0		129	0		179	8		229	8		279	0		329	1		379	0		429	0		479			
0		30	0		80	0		130	0		180	2		230	7		280	0		330	0		380	0		430	0		480			
0		31	0		81	1		131	0		181	9		231	3		281	0		331	1		381	1		431	0		481			
1		32	0		82	0		132	0		182	10		232	4		282	0		332	0		382	1		432	0		482			
0		33	0		83	0		133	0		183	4		233	4		283	0		333	0		383	0		433	0		483			
0		34	1		84	1		134	0		184	14		234	2		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	19		235	1		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	11		236	4		286	0		336	1		386	0		436	0		486			
0		37	0		87	0		137	1		187	13		237	3		287	0		337	0		387	0		437	0		487			
0		38	1		88	0		138	1		188	21		238	2		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	21		239	2		289	1		339	0		389	0		439	0		489			
1		40	0		90	0		140	0		190	28		240	3		290	0		340	1		390	0		440	0		490			
0		41	0		91	0		141	0		191	17		241	4		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	1		192	26		242	2		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	38		243	4		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	27		244	3		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	19		245	1		295	0		345	2		395	0		445	0		495			
0		46	0		96	0		146	0		196	10		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	1		197	5		247	2		297	0		347	1		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0		348	1		398	0		448	0		498			
0		49	0		99	0		149	0		199	2		249	0		299	0		349	0		399	1		449	0		499			

0 50 0 100 0 150 0 200 2 250 0 300 0 350 0 400 0 450 0 500

VMS Peak Search Report V1.9 Generated 20-JUL-2006 00:47:23

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H8W1N1AC_190761627.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:27:13
Sample ID         : H8W1N1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Start energy      :  2868.42             End energy       :  6692.50
Sensitivity       :     6.00             Sum Sensitivity  :     0.10
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4669.69	338	0	76.22	240.93	211	38	1.13E-02	5.4	

VMS Nuclide Identification Report V3.1 Generated 20-JUL-2006 00:47:24

```
Configuration     : RDND06$DKA100:[ALP116.SAMPLE]H8W1N1AC_190761627.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : TH BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 19-JUL-2006 16:27:13
Sample ID         : H8W1N1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP116               Detector geometry:
Elapsed live time: 0 08:20:08.00         Elapsed real time: 0 08:20:08.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type   : Spline               Efficiencies at  : Peak Energy
Abundance limit   :     0.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
TH-230	7.54E+04Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

```
  Error Report  (Date: 20-Jul-06  12:47 AM)

Program: Alp_rgn_cnts
subroutine: Main
Message: No trace pk or nucl
Record being processed:  7

System Status Message:

%NONAME-W-NOMSG, Message number 00000000
```

URANIUM ISOTOPIC

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/19/2006 2:20:48 PM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191211; RUSIO Ulso by ALP

SDG, Matrix: 32052; FILTER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions? Yes ✓ No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet? Yes ✓ No N/A

2.2 Are the QC appropriate for the analysis included in the batch? Yes ✓ No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc? Yes ✓ No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample? Yes ✓ No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits? Yes ✓ No N/A

3.2 Is the LCS result, yield, and MDA within contract limits? Yes ✓ No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits? Yes No N/A ✓

3.4 Are the duplicate result, yields, and MDAs within contract limits? Yes No N/A ✓

3.5 Are the sample yields and MDAs within contract limits? Yes ✓ No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units? Yes ✓ No N/A

4.2 Were analysis volumes entered correctly? Yes ✓ No N/A

4.3 Were Yields entered correctly? Yes ✓ No N/A

4.4 Were spectra reviewed/meet contractual requirements? Yes ✓ No N/A

4.5 Were raw counts reviewed for anomalies? Yes ✓ No N/A

5.0 Other

5.1 Are all nonconformances included and noted? Yes No N/A ✓

5.2 Are all required forms filled out? Yes ✓ No N/A

5.3 Was the correct methodology used? Yes ✓ No N/A

5.4 Was transcription checked? Yes ✓ No N/A

5.5 Were all calculations checked at a minimum frequency? Yes ✓ No N/A

5.6 Are worksheet entries complete and correct? Yes ✓ No N/A

6.0 Comments on any No response:

First Level Review [signature] **Date** 7/19/06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6191211

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response:

Second Level Review: Sherryl A Adam Date: 7-20-06

7/19/2006 2:20:07 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Mda	Sample Date / Units	Expected	Yield	Volumes
32052	**9H8M0510**			**J6G03015611**	000497	FILTER	7/3/2006 10:00:00		6/13/2006 2:00:00 PM			
U-234	7YSR	0		7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA	0.939	1.0E+0	6.247E-2
U-235	7YSR	0		7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA	0.939	1.0E+0	6.247E-2
U-238	7YSR	0		7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA	0.939	1.0E+0	6.247E-2
32052	**9H8M0810**			**J6G03015612**	000498	FILTER	7/3/2006 10:00:00		6/13/2006 12:00:00 PM			
U-234	7YSR	0		7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA	1.037	1.0E+0	6.198E-2
U-235	7YSR	0		7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA	1.037	1.0E+0	6.198E-2
U-238	7YSR	0		7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA	1.037	1.0E+0	6.198E-2
32052	**9H8M0K10**			**J6G0301568**	000494	FILTER	7/3/2006 10:00:00		6/14/2006 1:00:00 AM			
U-234	7YSR	0		7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA	1.05	1.0E+0	6.234E-2
U-235	7YSR	0		7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA	1.05	1.0E+0	6.234E-2
U-238	7YSR	0		7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA	1.05	1.0E+0	6.234E-2
32052	**9H8M0Q10**			**J6G0301569**	000495	FILTER	7/3/2006 10:00:00		6/14/2006 1:00:00 AM			
U-234	7YSR	0		7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA	0.987	1.0E+0	6.258E-2
U-235	7YSR	0		7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	0.987	1.0E+0	6.258E-2
U-238	7YSR	0		7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA	0.987	1.0E+0	6.258E-2
32052	**9H8M0V10**			**J6G03015610**	000496	FILTER	7/3/2006 10:00:00		6/13/2006 4:00:00 AM			
U-234	7YSR	0		7/18/2006 11:45:19 PM	**-1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	6.247E-2
U-235	7YSR	0		7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	6.247E-2
U-238	7YSR	0		7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	6.247E-2
32052	**9H8M1C10**			**J6G03015613**	000499	FILTER	7/3/2006 10:00:00		6/13/2006 1:00:00 PM			
U-234	7YSR	0		7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA	0.936	1.0E+0	6.152E-2
U-235	7YSR	0		7/18/2006 11:45:58 PM	**-2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA	0.936	1.0E+0	6.152E-2
U-238	7YSR	0		7/18/2006 11:45:58 PM	**-5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA	0.936	1.0E+0	6.152E-2
32052	**9H8M1E10**			**J6G03015614**	000500	FILTER	7/3/2006 10:00:00		6/13/2006 9:00:00 AM			
U-234	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	6.256E-2
U-235	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	6.256E-2
U-238	7YSR	0		7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA	0.973	1.0E+0	6.256E-2
32052	**9H8M1G10**			**J6G03015615**	000501	FILTER	7/3/2006 10:00:00		6/13/2006			
U-234	7YSR	0		7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA	1.01	1.0E+0	6.18E-2
U-235	7YSR	0		7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA	1.01	1.0E+0	6.18E-2
U-238	7YSR	0		7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA	1.01	1.0E+0	6.18E-2
32052	**9H8MX310**			**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00		6/12/2006 6:35:00 PM			
U-234	7YSR	0		7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA	0.965	1.0E+0	6.266E-2
U-235	7YSR	0		7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA	0.965	1.0E+0	6.266E-2
U-238	7YSR	0		7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA	0.965	1.0E+0	6.266E-2
32052	**9H8MX610**			**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00		6/12/2006 7:10:00 PM			
U-234	7YSR	0		7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA	0.83	1.0E+0	6.244E-2
U-235	7YSR	0		7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA	0.83	1.0E+0	6.244E-2
U-238	7YSR	0		7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA	0.83	1.0E+0	6.244E-2
32052	**9H8MX810**			**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00		6/12/2006 2:35:00 PM			
U-234	7YSR	0		7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA	1.018	1.0E+0	6.245E-2
U-235	7YSR	0		7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA	1.018	1.0E+0	6.245E-2
U-238	7YSR	0		7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA	1.018	1.0E+0	6.245E-2
32052	**9H8MXT10**			**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00		6/12/2006 2:25:00 PM			
U-234	7YSR	0		7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA	1.043	1.0E+0	6.244E-2
U-235	7YSR	0		7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA	1.043	1.0E+0	6.244E-2
U-238	7YSR	0		7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA	1.043	1.0E+0	6.244E-2
32052	**9H8MXV10**			**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00		6/12/2006 3:45:00 PM			
U-234	7YSR	0		7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA	1.004	1.0E+0	6.27E-2
U-235	7YSR	0		7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA	1.004	1.0E+0	6.27E-2
U-238	7YSR	0		7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA	1.004	1.0E+0	6.27E-2

6191211, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 51 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AG=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AG=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AG=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M081AG=> , sdt:6/13/2006

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield		Volumes
32052	**9H8MXW10**			**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM					
U-234	7YSR	0		7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA		0.853	1.0E+0	6.157E-2
U-235	7YSR	0		7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA		0.853	1.0E+0	6.157E-2
U-238	7YSR	0		7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA		0.853	1.0E+0	6.157E-2
32052	**9H8MXX10**			**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM					
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA		0.898	1.0E+0	6.278E-2
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA		0.898	1.0E+0	6.278E-2
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA		0.898	1.0E+0	6.278E-2
32052	**H8W1L1AB**			**J6G100000211**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
U-234	7YSR	0	B	7/18/2006 11:46:44 PM	**-1.5513E-03**	8.956E-04	9.037E-04	3.223E-02	PCI/SA		1.006	1.0E+0	1.0E+0
U-235	7YSR	0	B	7/18/2006 11:46:44 PM	**-1.0342E-03**	7.313E-04	7.357E-04	2.953E-02	PCI/SA		1.006	1.0E+0	1.0E+0
U-238	7YSR	0	B	7/18/2006 11:46:44 PM	**1.292E-02**	9.136E-03	9.191E-03	1.751E-02	PCI/SA		1.006	1.0E+0	1.0E+0
32052	**H8W1L1CS**			**J6G100000211**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
U-234	7YSR	0	S	7/18/2006 11:46:56 PM	**9.5068E-01**	9.315E-02	1.211E-01	5.137E-02	PCI/SA	9.7036E-01	0.958	1.0E+0	1.0E+0
U-235	7YSR	0	S	7/18/2006 11:46:56 PM	**4.4716E-02**	2.034E-02	2.066E-02	3.659E-02	PCI/SA	4.4273E-02	0.958	1.0E+0	1.0E+0
U-238	7YSR	0	S	7/18/2006 11:46:56 PM	**8.7252E-01**	8.905E-02	1.139E-01	2.463E-02	PCI/SA	1.0163E+00	0.958	1.0E+0	1.0E+0

6191211, **Samples Inserted | Updated | NotUpdated => 17 | 0 | 0,
**Results Inserted | ReTestInserted | Updated | NotInserted => 51 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AG=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AG=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AG=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M081AG=> , sdt:6/13/2006

7/19/2006 2:20:10 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/19/2005, 7/24/2006, Batch: '6191211', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191211						
AC		**CalcC**	**HansenM**	7/17/2006 9:38:05		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/17/2006 9:38:05 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/17/2006 9:38:33 AM	RICH-RC-5016 REVISION 5
SC			FABREM	Sep2C	7/18/2006 5:07:15 PM	RICH-RC-5003 REV 6
SC			DAWKINSO	InCnt1	7/18/2006 8:18:54 PM	RICH-RD-0008 REVISION 4
SC			BlackCL	CalcC	7/19/2006 7:30:15 AM	RICH-RD-0008 REVISION 4
AC			**HansenM**	7/17/2006 9:38:33		
AC			**FABREM**	7/18/2006 5:07:15 PM		
AC			**DAWKINSO**	7/18/2006 8:18:54 PM		
AC			**BlackCL**	7/19/2006 7:30:15		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

STL RICHLAND

7/14/2006 11:37:29 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Balance Id:1120373922

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191211 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech: 7-18-06 ym.f

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 **H8MXT-1-AG** J6G030156-1-SAMP 06/12/2006 14:25	0.833g	502.16g	37.64g,in	0.0624g	UITC15948 06/28/06,pd 01/20/04,r	200				
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 **H8MXV-1-AG** J6G030156-2-SAMP 06/12/2006 15:45	0.833g	500.50g	37.67g,in	0.0627g	UITC15949 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 **H8MXW-1-AG** J6G030156-3-SAMP 06/12/2006 16:45	0.833g	511.31g	37.79g,in	0.0616g	UITC15950 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 **H8MXX-1-AG** J6G030156-4-SAMP 06/12/2006 17:50	0.833g	500.07g	37.69g,in	0.0628g	UITC15951 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
5 **H8MX3-1-AG** J6G030156-5-SAMP 06/12/2006 18:35	0.833g	503.86g	37.90g,in	0.0627g	UITC15952 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 **H8MX6-1-AG** J6G030156-6-SAMP 06/12/2006 19:10	0.833g	504.67g	37.83g,in	0.0624g	UITC15953 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 **H8MX8-1-AG** J6G030156-7-SAMP 06/12/2006 14:35	0.833g	501.56g	37.60g,in	0.0624g	UITC15954 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 11:37:30 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191211 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H8M0K-1-AG J6G030156-8-SAMP 06/12/2006 00:49	0.833g	501.61g	37.54g,in	0.0623g	UITC15955 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
9 H8M0Q-1-AG J6G030156-9-SAMP 06/12/2006 00:49	0.833g	500.21g	37.58g,in	0.0626g	UITC15956 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
10 H8M0V-1-AG J6G030156-10-SAMP 06/12/2006 00:28	0.833g	501.62g	37.62g,in	0.0625g	UITC15957 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
11 H8M05-1-AG J6G030156-11-SAMP 06/12/2006 00:38	0.833g	502.43g	37.68g,in	0.0625g	UITC15958 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
12 H8M08-1-AG J6G030156-12-SAMP 06/12/2006 00:36	0.833g	504.38g	37.53g,in	0.062g	UITC15959 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
13 H8M1C-1-AG J6G030156-13-SAMP 06/12/2006 00:37	0.833g	507.93g	37.51g,in	0.0615g	UITC15960 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
14 H8M1E-1-AG J6G030156-14-SAMP 06/12/2006 00:33	0.833g	500.10g	37.56g,in	0.0626g	UITC15961 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:

237

STL RICHLAND

7/14/2006 11:37:30 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

7Y Uiso PrpRC5016/5086, SepRC5067(5039)
SR Uranium-234,235,238 by Alpha Spec
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191211 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H8M1G-1-AG J6G030156-15-SAMP 06/12/2006 00:24	0.833g	507.33g	37.64g,in	0.0618g	UITC15962 06/28/06,pd 01/20/04,r					
		AmtRec: FILTER		#Containers: 1				Scr:	Alpha:	Beta:
16H8W1L-1-AA-B J6G100000-211-BLK 06/12/2006 14:25			1.00sa,in	1.00sa	UITC16016 07/14/06,pd 01/20/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:
17H8W1L-1-AC-C J6G100000-211-LCS 06/12/2006 14:25			1.00sa,in	1.00sa	UISF0461 06/15/06,pd 01/20/04,r					
		AmtRec:		#Containers: 1				Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H8MXT1AG-SAMP Constituent List:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:

H8W1L1AA-BLK:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	U-234	RDL:1	pCi/sam	LCL:	UCL:	RPD:
U-235	RDL:1	pCi/sam	LCL:	UCL:	RPD:	U-238	RDL:1	pCi/sam	LCL:	UCL:	RPD:

H8W1L1AC-LCS:

U-232	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Uranium	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20

H8MXT1AG-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W1L1AA-BLK:

Batch Nbr: 6191211

Alpha Spec, UIso by ALP , Results

7/19/2006 7:28:45 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	MLcC	MDC	QC	Yield	RYld
UIso by ALP				Richland Standard AlpIso Wo Blk Subt.										
Calc	SR	FILTER	H8MXT1AG	U-234	1.58E-01	(1.43E-01)	U4	PCI/SA	R	1.45E-01	5.57E-01		104%	
Calc	SR	FILTER	H8MXT1AG	U-235	5.91E-02	(1.03E-01)	U4	PCI/SA	R	1.45E-01	5.57E-01		104%	
Calc	SR	FILTER	H8MXT1AG	U-238	-7.89E-02	(3.99E-02)	U4	PCI/SA	R	2.05E-01	6.77E-01		104%	
Calc	SR	FILTER	H8MXV1AG	U-234	9.92E-02	(9.95E-02)	U4	PCI/SA	R		2.69E-01		100%	
Calc	SR	FILTER	H8MXV1AG	U-235	-5.95E-02	(3.47E-02)	U4	PCI/SA	R	1.79E-01	6.26E-01		100%	
Calc	SR	FILTER	H8MXV1AG	U-238	3.97E-02	(1.05E-01)	U4	PCI/SA	R	1.79E-01	6.26E-01		100%	
Calc	SR	FILTER	H8MXW1AG	U-234	1.82E-01	(2.07E-01)	U4	PCI/SA	R	3.13E-01	9.34E-01		85%	
Calc	SR	FILTER	H8MXW1AG	U-235	2.73E-01	(2.02E-01)	U4	PCI/SA	R	2.05E-01	7.18E-01		85%	
Calc	SR	FILTER	H8MXW1AG	U-238	-1.37E-01	(5.69E-02)	U4	PCI/SA	R	2.90E-01	8.88E-01		85%	
Calc	SR	FILTER	H8MXX1AG	U-234	1.90E-01	(1.90E-01)	U4	PCI/SA	R	2.68E-01	8.22E-01		90%	
Calc	SR	FILTER	H8MXX1AG	U-235	8.43E-02	(1.08E-01)	U4	PCI/SA	R	1.10E-01	5.04E-01		90%	
Calc	SR	FILTER	H8MXX1AG	U-238	8.43E-02	(1.58E-01)	U4	PCI/SA	R	2.68E-01	8.22E-01		90%	
Calc	SR	FILTER	H8MX31AG	U-234	1.14E-01	(1.40E-01)	U4	PCI/SA	R	1.98E-01	6.53E-01		96%	
Calc	SR	FILTER	H8MX31AG	U-235	-3.80E-02	(2.71E-02)	U4	PCI/SA	R	1.40E-01	5.37E-01		96%	
Calc	SR	FILTER	H8MX31AG	U-238	1.90E-02	(1.02E-01)	U4	PCI/SA	R	1.98E-01	6.53E-01		96%	
Calc	SR	FILTER	H8MX61AG	U-234	0.00E+00	(1.42E-01)	U4	PCI/SA	R		3.13E-01		83%	
Calc	SR	FILTER	H8MX61AG	U-235	-2.31E-02	(2.32E-02)	U4	PCI/SA	R	1.20E-01	5.53E-01		83%	
Calc	SR	FILTER	H8MX61AG	U-238	-4.62E-02	(3.29E-02)	U4	PCI/SA	R	1.70E-01	6.53E-01		83%	
Calc	SR	FILTER	H8MX81AG	U-234	7.94E-02	(1.01E-01)	U4	PCI/SA	R	1.03E-01	4.75E-01		102%	
Calc	SR	FILTER	H8MX81AG	U-235	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.69E-01		102%	
Calc	SR	FILTER	H8MX81AG	U-238	-1.99E-02	(1.99E-02)	U4	PCI/SA	R	1.03E-01	4.75E-01		102%	
Calc	SR	FILTER	H8M0K1AG	U-234	9.25E-02	(9.28E-02)	U4	PCI/SA	R		2.51E-01		105%	
Calc	SR	FILTER	H8M0K1AG	U-235	-1.85E-02	(1.86E-02)	U4	PCI/SA	R	9.62E-02	4.43E-01		105%	
Calc	SR	FILTER	H8M0K1AG	U-238	7.40E-02	(9.45E-02)	U4	PCI/SA	R	9.62E-02	4.43E-01		105%	
Calc	SR	FILTER	H8M0Q1AG	U-234	7.95E-02	(1.02E-01)	U4	PCI/SA	R	1.03E-01	4.76E-01		99%	
Calc	SR	FILTER	H8M0Q1AG	U-235	0.00E+00	(1.22E-01)	U4	PCI/SA	R		2.69E-01		99%	
Calc	SR	FILTER	H8M0Q1AG	U-238	5.96E-02	(1.03E-01)	U4	PCI/SA	R	1.46E-01	5.61E-01		99%	
Calc	SR	FILTER	H8M0V1AG	U-234	-1.95E-02	(1.96E-02)	U4	PCI/SA	R	1.02E-01	4.68E-01		106%	
Calc	SR	FILTER	H8M0V1AG	U-235	0.00E+00	(1.20E-01)	U4	PCI/SA	R		2.65E-01		106%	
Calc	SR	FILTER	H8M0V1AG	U-238	7.81E-02	(9.97E-02)	U4	PCI/SA	R	1.02E-01	4.68E-01		106%	
Calc	SR	FILTER	H8M051AG	U-234	0.00E+00	(1.15E-01)	U4	PCI/SA	R		2.54E-01		94%	
Calc	SR	FILTER	H8M051AG	U-235	-1.88E-02	(1.88E-02)	U4	PCI/SA	R	9.75E-02	4.49E-01		94%	
Calc	SR	FILTER	H8M051AG	U-238	7.50E-02	(9.58E-02)	U4	PCI/SA	R	9.75E-02	4.49E-01		94%	
Calc	SR	FILTER	H8M081AG	U-234	1.98E-01	(1.41E-01)	U4	PCI/SA	R		2.68E-01		104%	
Calc	SR	FILTER	H8M081AG	U-235	0.00E+00	(1.21E-01)	U4	PCI/SA	R		2.68E-01		104%	
Calc	SR	FILTER	H8M081AG	U-238	-1.98E-02	(1.98E-02)	U4	PCI/SA	R	1.03E-01	4.74E-01		104%	
Calc	SR	FILTER	H8M1C1AG	U-234	-4.18E-02	(1.90E-02)	U4	PCI/SA	R	1.54E-01	5.91E-01		94%	

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:51
RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211

Alpha Spec, Uiso by ALP , Results

7/19/2006 7:28:45 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	SR	FILTER	**H8M1C1AG**	U-235	**-2.51E-02**	**(1.46E-02)**	**U4**	PCI/SA	R	1.19E-01	5.22E-01		94%	
Calc	SR	FILTER	**H8M1C1AG**	U-238	**-5.86E-02**	**(2.26E-02)**	**U4**	PCI/SA	R	1.82E-01	6.47E-01		94%	
Calc	SR	FILTER	**H8M1E1AG**	U-234	**-2.43E-02**	**(1.42E-02)**	**U4**	PCI/SA	R	1.15E-01	5.05E-01		97%	
Calc	SR	FILTER	**H8M1E1AG**	U-235	**-2.43E-02**	**(1.42E-02)**	**U4**	PCI/SA	R	1.15E-01	5.05E-01		97%	
Calc	SR	FILTER	**H8M1E1AG**	U-238	**-3.24E-02**	**(1.64E-02)**	**U4**	PCI/SA	R	1.33E-01	5.40E-01		97%	
Calc	SR	FILTER	**H8M1G1AG**	U-234	**-4.19E-02**	**(1.90E-02)**	**U4**	PCI/SA	R	1.54E-01	5.92E-01		101%	
Calc	SR	FILTER	**H8M1G1AG**	U-235	**-1.68E-02**	**(1.19E-02)**	**U4**	PCI/SA	R	9.75E-02	4.79E-01		101%	
Calc	SR	FILTER	**H8M1G1AG**	U-238	**-3.35E-02**	**(1.70E-02)**	**U4**	PCI/SA	R	1.38E-01	5.60E-01		101%	
Calc	SR	FILTER	**H8W1L1AA**	U-234	**-1.55E-03**	**(9.04E-04)**	**U4**	PCI/SA	R	7.36E-03	3.22E-02	**B**	101%	
Calc	SR	FILTER	**H8W1L1AA**	U-235	**-1.03E-03**	**(7.36E-04)**	**U4**	PCI/SA	R	6.01E-03	2.95E-02	**B**	101%	
Calc	SR	FILTER	**H8W1L1AA**	U-238	**1.29E-02**	**(9.19E-03)**	**U4**	PCI/SA	R		1.75E-02	**B**	101%	
Calc	SR	FILTER	**H8W1L1AC**	U-234	**9.51E-01**	**(1.21E-01)**		PCI/SA	R	1.34E-02	5.14E-02	**S**	96%	98%
Calc	SR	FILTER	**H8W1L1AC**	U-235	**4.47E-02**	**(2.07E-02)**		PCI/SA	R	5.98E-03	3.66E-02	**S**	96%	101%
Calc	SR	FILTER	**H8W1L1AC**	U-238	**8.73E-01**	**(1.14E-01)**		PCI/SA	R		2.46E-02	**S**	96%	86%

dh
7/14/06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:68
RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211

Alpha Spec, Uiso by ALP , Calculated Results

Detailed Report

7/19/2006 7:28:46 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MXT1AG**	**PCI/SA**		06/12/06 14:25	07/18/06 23:43			1	1.00 SA	
536403,P-0668					,J6G030156-1 v4.8.18		FILTER					UITC15948 Alq		0.062439 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:03	U-232	768	3	ALP1	ED	Y	N	3.6576E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1166			Y		(1.097E-02)						(0.000E+00)	16.015758		
1	07/18/06 22:03	U-234	2	2	ALP1	ED	N	N	3.6576E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.015758		
2	07/18/06 22:03	U-235	1	2	ALP1	ED	N	N	3.6576E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.015758		
3	07/18/06 22:03	U-238	0	4	ALP1	ED	N	N	3.6576E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1166			Y		(1.097E-02)			5%			(0.000E+00)	16.015758		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**75.65534**		3.83572E+00	10.486861	10.486861	1.00 SA	104%				
				(5.578463)		(1.3853E-01)	(0.492361)	(0.492361)	(0.027066)					
	07/19/06	U-234	R	**0.15773**	**U4**	7.99690E-03	0.021864	0.021864	1.00 SA	104%		0.557136		
				(0.142738)		(7.2088E-03)	(0.019746)	(0.019746)	(0.027066)			0.145069		
	07/19/06	U-235	R	**0.059143**	**U4**	2.99857E-03	0.008198	0.008198	1.00 SA	104%		0.557136		
				(0.102564)		(5.1945E-03)	(0.014209)	(0.014209)	(0.027066)			0.145069		
	07/19/06	U-238	R	**-0.078886**	**U4**	-3.99953E-03	-0.010935	-0.010935	1.00 SA	104%		0.677244		
				(0.03994)		(1.9998E-03)	(0.005501)	(0.005501)	(0.027066)			0.205159		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MXV1AG**	**PCI/SA**		06/12/06 15:45	07/18/06 23:43			1	1.00 SA	
536403,P-0669					,J6G030156-2 v4.8.18		FILTER					UITC15949 Alq		0.062696 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:03	U-232	735	15	ALP2	ED	Y	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1333			Y		(1.086E-02)						(0.000E+00)	15.950102		
1	07/18/06 22:03	U-234	1	0	ALP2	ED	N	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	15.950102		
2	07/18/06 22:03	U-235	0	3	ALP2	ED	N	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	15.950102		
3	07/18/06 22:03	U-238	1	3	ALP2	ED	N	N	3.6206E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1333			Y		(1.086E-02)			5%			(0.000E+00)	15.950102		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.18

STL Richland

Batch Nbr: 6191211 Alpha Spec, UIso by ALP , Calculated Results 7/19/2006 7:28:46 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**72.605532**		3.65878E+00	10.105543	10.105543	1.00 SA	100%				
				(5.387213)		(1.3556E-01)	(0.481775)	(0.481775)	(0.027066)					
	07/19/06	U-234	R	**0.099188**	U4	4.99833E-03	0.013805	0.013805	1.00 SA	100%		0.268799		
				(0.099505)		(4.9983E-03)	(0.013827)	(0.013827)	(0.027066)					
	07/19/06	U-235	R	**-0.059525**	U4	-2.99960E-03	-0.008285	-0.008285	1.00 SA	100%		0.626098		
				(0.034695)		(1.7318E-03)	(0.004806)	(0.004806)	(0.027066)			0.178755		
	07/19/06	U-238	R	**0.039663**	U4	1.99873E-03	0.005521	0.005521	1.00 SA	100%		0.626098		
				(0.105021)		(5.2899E-03)	(0.014614)	(0.014614)	(0.027066)			0.178755		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MXW1AG**	**PCI/SA**		06/12/06 16:45	07/18/06 23:43			1	1.00 SA	
536403,P-0670					,J6G030156-3 v4.8.18		FILTER					UITC15950 Alq		0.061566 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:03	U-232	650	8	ALP3	ED	Y	N	3.7651E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0333			Y		(1.130E-02)						(0.000E+00)	16.242856		
1	07/18/06 22:03	U-234	3	7	ALP3	ED	N	N	3.7651E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.242856		
2	07/18/06 22:03	U-235	3	3	ALP3	ED	N	N	3.7651E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.242856		
3	07/18/06 22:03	U-238	0	6	ALP3	ED	N	N	3.7651E-01		N	85%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	1000.0333			Y		(1.130E-02)			4%			(0.000E+00)	16.242856		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**62.948799**		3.23929E+00	8.603565	8.603565	1.00 SA	85%				
				(4.74393)		(1.2740E-01)	(0.425579)	(0.425579)	(0.027066)					
	07/19/06	U-234	R	**0.181872**	U4	7.98774E-03	0.024857	0.024857	1.00 SA	85%		0.934358		
				(0.206551)		(9.0485E-03)	(0.028195)	(0.028195)	(0.027066)			0.313234		
	07/19/06	U-235	R	**0.272945**	U4	1.19876E-02	0.037305	0.037305	1.00 SA	85%		0.718138		
				(0.202144)		(8.8247E-03)	(0.027547)	(0.027547)	(0.027066)			0.20506		
	07/19/06	U-238	R	**-0.136609**	U4	-5.99980E-03	-0.018671	-0.018671	1.00 SA	85%		0.887914		
				(0.056861)		(2.4494E-03)	(0.007699)	(0.007699)	(0.027066)			0.289998		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MXX1AG**	**PCI/SA**		06/12/06 17:50	07/18/06 23:43			1	1.00 SA	
536403,P-0671					,J6G030156-4 v4.8.18		FILTER					UITC15951 Alq		0.062783 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:03	U-232	685	5	ALP4	ED	Y	N	3.7951E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200	1000.3			Y		(1.139E-02)						(0.000E+00)	15.927942		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191211 Alpha Spec, Uiso by ALP , Calculated Results 7/19/2006 7:28:46 AM

1	07/18/06 22:03	U-234	3	6	ALP4	ED	N	N	3.7951E-01	N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200	1000.3			Y		(1.139E-02)		4%			(0.000E+00)	15.927942	
2	07/18/06 22:03	U-235	1	1	ALP4	ED	N	N	3.7951E-01	N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200	1000.3			Y		(1.139E-02)		4%			(0.000E+00)	15.927942	
3	07/18/06 22:03	U-238	2	6	ALP4	ED	N	N	3.7951E-01	N	90%	N		1.0000E+00	4.5045E-01	1.0000E+00
			200	1000.3			Y		(1.139E-02)		4%			(0.000E+00)	15.927942	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**64.656646**		3.42000E+00	9.011704	9.011704	1.00 SA	90%				
				(4.837212)		(1.3088E-01)	(0.438209)	(0.438209)	(0.027066)					
	07/19/06	U-234	R	**0.18959**	U4	9.00180E-03	0.026425	0.026425	1.00 SA	90%		0.821716		
				(0.190163)		(8.9998E-03)	(0.026462)	(0.026462)	(0.027066)			0.268326		
	07/19/06	U-235	R	**0.084252**	U4	4.00030E-03	0.011743	0.011743	1.00 SA	90%		0.504339		
				(0.107606)		(5.0990E-03)	(0.014983)	(0.014983)	(0.027066)			0.109544		
	07/19/06	U-238	R	**0.084283**	U4	4.00180E-03	0.011747	0.011747	1.00 SA	90%		0.821716		
				(0.15775)		(7.4831E-03)	(0.021977)	(0.021977)	(0.027066)			0.268326		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MX31AG**	**PCI/SA**		06/12/06 18:35	07/18/06 23:44			1	1.00 SA	
536403,P-0672					,J6G030156-5 v4.8.18		FILTER					UITC15952 Alq		0.062658 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:04	U-232	764	10	ALP5	ED	Y	N	3.9200E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)						(0.000E+00)	15.959735		
1	07/18/06 22:04	U-234	2	4	ALP5	ED	N	N	3.9200E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	15.959735		
2	07/18/06 22:04	U-235	0	2	ALP5	ED	N	N	3.9200E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	15.959735		
3	07/18/06 22:04	U-238	1	4	ALP5	ED	N	N	3.9200E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2			Y		(1.176E-02)			5%			(0.000E+00)	15.959735		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**69.866927**		3.80968E+00	9.718503	9.718503	1.00 SA	96%				
				(5.157402)		(1.3823E-01)	(0.457541)	(0.457541)	(0.027066)					
	07/19/06	U-234	R	**0.114068**	U4	5.99997E-03	0.015867	0.015867	1.00 SA	96%		0.652877		
				(0.139987)		(7.3478E-03)	(0.019451)	(0.019451)	(0.027066)			0.197764		
	07/19/06	U-235	R	**-0.038015**	U4	-1.99960E-03	-0.005288	-0.005288	1.00 SA	96%		0.537098		
				(0.027051)		(1.4139E-03)	(0.003751)	(0.003751)	(0.027066)			0.139841		
	07/19/06	U-238	R	**0.019019**	U4	1.00038E-03	0.002645	0.002645	1.00 SA	96%		0.652877		
				(0.10238)		(5.3846E-03)	(0.01424)	(0.01424)	(0.027066)			0.197764		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:6 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191211 — Alpha Spec, UIso by ALP , Calculated Results — 7/19/2006 7:28:46 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MX61AG**	**PCI/SA**		06/12/06 19:10	07/18/06 23:44			1	1.00 SA	
536403,P-0673					,J6G030156-6 v4.8.18		FILTER					UITC15953 Alq		0.062442 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:04	U-232	630	5	ALP6	ED	Y	N	3.7594E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.128E-02)						(0.000E+00)	16.014971		
1	07/18/06 22:04	U-234	0	0	ALP6	ED	N	N	3.7594E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.014971		
2	07/18/06 22:04	U-235	0	1	ALP6	ED	N	N	3.7594E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.014971		
3	07/18/06 22:04	U-238	0	2	ALP6	ED	N	N	3.7594E-01		N	83%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.1666			Y		(1.128E-02)			4%			(0.000E+00)	16.014971		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**60.329561**		3.14395E+00	8.36291	8.36291	1.00 SA	83%				
				(4.564925)		(1.2548E-01)	(0.417548)	(0.417548)	(0.027066)					
	07/19/06	U-234	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	83%		0.313128		
				(0.141514)		(0.0000E+00)	(0.019617)	(0.019617)	(0.027066)					
	07/19/06	U-235	R	**-0.023113**	U4	-9.99833E-04	-0.003204	-0.003204	1.00 SA	83%		0.553429		
				(0.023189)		(9.9983E-04)	(0.003209)	(0.003209)	(0.027066)			0.120222		
	07/19/06	U-238	R	**-0.046226**	U4	-1.99967E-03	-0.006408	-0.006408	1.00 SA	83%		0.652966		
				(0.032902)		(1.4140E-03)	(0.004546)	(0.004546)	(0.027066)			0.17002		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8MX81AG**	**PCI/SA**		06/12/06 14:35	07/18/06 23:44			1	1.00 SA	
536403,P-0674					,J6G030156-7 v4.8.18		FILTER					UITC15954 Alq		0.062447 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:04	U-232	747	3	ALP7	ED	Y	N	3.6324E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.1166			Y		(1.090E-02)						(0.000E+00)	16.013639		
1	07/18/06 22:04	U-234	1	1	ALP7	ED	N	N	3.6324E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.013639		
2	07/18/06 22:04	U-235	0	0	ALP7	ED	N	N	3.6324E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.013639		
3	07/18/06 22:04	U-238	0	1	ALP7	ED	N	N	3.6324E-01		N	102%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0833333	1000.1166			Y		(1.090E-02)			5%			(0.000E+00)	16.013639		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7 — RADCALC v4.8.18 — STL Richland

Batch Nbr: 6191211 — Alpha Spec, UIso by ALP , Calculated Results — 7/19/2006 7:28:46 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**74.080424**		3.73044E+00	10.269914	10.269914	1.00 SA	102%				
				(5.480758)		(1.3661E-01)	(0.486176)	(0.486176)	(0.027066)					
	07/19/06	U-234	R	**0.079394**	U4	3.99803E-03	0.011007	0.011007	1.00 SA	102%		0.475395		
				(0.101415)		(5.0970E-03)	(0.014045)	(0.014045)	(0.027066)			0.103274		
	07/19/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	102%		0.268968		
				(0.121556)		(0.0000E+00)	(0.016852)	(0.016852)	(0.027066)					
	07/19/06	U-238	R	**-0.019856**	U4	-9.99883E-04	-0.002753	-0.002753	1.00 SA	102%		0.475395		
				(0.019919)		(9.9988E-04)	(0.002757)	(0.002757)	(0.027066)			0.103274		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M0K1AG**	**PCI/SA**		06/14/06 01:00	07/18/06 23:44			1	1.00 SA	
536403,000494					,J6G030156-8 v4.8.18		FILTER					UITC15955 Alq		0.062341 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:04	U-232	825	5	ALP8	ED	Y	N	3.9047E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)						(0.000E+00)	16.040833		
1	07/18/06 22:04	U-234	1	0	ALP8	ED	N	N	3.9047E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	16.040833		
2	07/18/06 22:04	U-235	0	1	ALP8	ED	N	N	3.9047E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	16.040833		
3	07/18/06 22:04	U-238	1	1	ALP8	ED	N	N	3.9047E-01		N	105%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0166666	1000.2166			Y		(1.171E-02)			5%			(0.000E+00)	16.040833		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**76.233206**		4.11966E+00	10.550443	10.550443	1.00 SA	105%				
				(5.574894)		(1.4362E-01)	(0.485247)	(0.485247)	(0.027066)					
	07/19/06	U-234	R	**0.092516**	U4	4.99958E-03	0.012804	0.012804	1.00 SA	105%		0.250718		
				(0.092805)		(4.9996E-03)	(0.012823)	(0.012823)	(0.027066)					
	07/19/06	U-235	R	**-0.018501**	U4	-9.99783E-04	-0.00256	-0.00256	1.00 SA	105%		0.443097		
				(0.018558)		(9.9978E-04)	(0.002564)	(0.002564)	(0.027066)			0.096246		
	07/19/06	U-238	R	**0.074015**	U4	3.99980E-03	0.010243	0.010243	1.00 SA	105%		0.443097		
				(0.094529)		(5.0986E-03)	(0.01307)	(0.01307)	(0.027066)			0.096246		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M0Q1AG**	**PCI/SA**		06/14/06 01:00	07/18/06 23:45			1	1.00 SA	
536403,000495					,J6G030156-9 v4.8.18		FILTER					UITC15956 Alq		0.062582 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:05	U-232	731	4	ALP9	ED	Y	N	3.6670E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.0333			Y		(1.100E-02)						(0.000E+00)	15.979037		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:9 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211 Alpha Spec, UIso by ALP , Calculated Results 7/19/2006 7:28:47 AM

1	07/18/06 22:05	U-234	1	1	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.979037	
2	07/18/06 22:05	U-235	0	0	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.979037	
3	07/18/06 22:05	U-238	1	2	ALP9	ED	N	N	3.6670E-01	N	99%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	1000.0333			Y		(1.100E-02)		5%		(0.000E+00)	15.979037	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**71.627013**		3.64917E+00	9.951296	9.951296	1.00 SA	99%				
				(5.31386)		(1.3513E-01)	(0.474259)	(0.474259)	(0.027066)					
	07/19/06	U-234	R	**0.079468**	**U4**	3.99753E-03	0.011041	0.011041	1.00 SA	99%		0.475875		
				(0.101516)		(5.0966E-03)	(0.01409)	(0.01409)	(0.027066)			0.103384		
	07/19/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	99%		0.26923		
				(0.121675)		(0.0000E+00)	(0.016905)	(0.016905)	(0.027066)					
	07/19/06	U-238	R	**0.05959**	**U4**	2.99757E-03	0.008279	0.008279	1.00 SA	99%		0.56147		
				(0.103358)		(5.1937E-03)	(0.014352)	(0.014352)	(0.027066)			0.146207		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M0V1AG**	**PCI/SA**		06/13/06 04:00	07/18/06 23:45			1	1.00 SA	
536403,000496					,J6G030156-10 v4.8.18		FILTER					UITC15957 Alq		0.062473 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:05	U-232	790	3	ALP10	ED	Y	N	3.6914E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.3166			Y		(1.107E-02)						(0.000E+00)	16.007041		
1	07/18/06 22:05	U-234	0	1	ALP10	ED	N	N	3.6914E-01		N	106%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.007041		
2	07/18/06 22:05	U-235	0	0	ALP10	ED	N	N	3.6914E-01		N	106%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.007041		
3	07/18/06 22:05	U-238	1	1	ALP10	ED	N	N	3.6914E-01		N	106%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	1000.3166			Y		(1.107E-02)			5%			(0.000E+00)	16.007041		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**77.057803**		3.94503E+00	10.687078	10.687078	1.00 SA	106%				
				(5.662831)		(1.4048E-01)	(0.497603)	(0.497603)	(0.027066)					
	07/19/06	U-234	R	**-0.019527**	**U4**	-9.99683E-04	-0.002708	-0.002708	1.00 SA	106%		0.467553		
				(0.019588)		(9.9968E-04)	(0.002712)	(0.002712)	(0.027066)			0.101568		
	07/19/06	U-235	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	106%		0.264538		
				(0.119554)		(0.0000E+00)	(0.016581)	(0.016581)	(0.027066)					
	07/19/06	U-238	R	**0.078089**	**U4**	3.99782E-03	0.01083	0.01083	1.00 SA	106%		0.467553		
				(0.099742)		(5.0965E-03)	(0.013819)	(0.013819)	(0.027066)			0.101568		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11 RADCALC v4.8.18 STL Richland

Batch Nbr: 6191211 Alpha Spec, UIso by ALP , Calculated Results 7/19/2006 7:28:47 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M051AG**	**PCI/SA**		06/13/06 14:00	07/18/06 23:45			1	1.00 SA	
536403,000497					,J6G030156-11 v4.8.18		FILTER					UITC15958 Alq		0.062471 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:05	U-232	777	9	ALP11	ED	Y	N	4.0933E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.2833			Y		(1.228E-02)						(0.000E+00)	16.007358		
1	07/18/06 22:05	U-234	0	0	ALP11	ED	N	N	4.0933E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.007358		
2	07/18/06 22:05	U-235	0	1	ALP11	ED	N	N	4.0933E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.007358		
3	07/18/06 22:05	U-238	1	1	ALP11	ED	N	N	4.0933E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.0666666	1000.2833			Y		(1.228E-02)			4%			(0.000E+00)	16.007358		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**68.254094**		3.87471E+00	9.465912	9.465912	1.00 SA	94%				
				(5.027757)		(1.3936E-01)	(0.443343)	(0.443343)	(0.027066)					
	07/19/06	U-234	R	**0.00E00**	**U4**	0.00000E+00	0.00E00	0.00E00	1.00 SA	94%		0.254051		
				(0.114815)		(0.0000E+00)	(0.015923)	(0.015923)	(0.027066)					
	07/19/06	U-235	R	**-0.01875**	**U4**	-9.99717E-04	-0.0026	-0.0026	1.00 SA	94%		0.449004		
				(0.018809)		(9.9972E-04)	(0.002604)	(0.002604)	(0.027066)			0.097535		
	07/19/06	U-238	R	**0.074996**	**U4**	3.99862E-03	0.010401	0.010401	1.00 SA	94%		0.449004		
				(0.095788)		(5.0973E-03)	(0.013271)	(0.013271)	(0.027066)			0.097535		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M081AG**	**PCI/SA**		06/13/06 12:00	07/18/06 23:45			1	1.00 SA	
536403,000498					,J6G030156-12 v4.8.18		FILTER					UITC15959 Alq		0.061982 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:05	U-232	769	6	ALP12	ED	Y	N	3.6724E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.2333			Y		(1.102E-02)						(0.000E+00)	16.133712		
1	07/18/06 22:05	U-234	2	0	ALP12	ED	N	N	3.6724E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.133712		
2	07/18/06 22:05	U-235	0	0	ALP12	ED	N	N	3.6724E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.133712		
3	07/18/06 22:05	U-238	0	1	ALP12	ED	N	N	3.6724E-01		N	104%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1333333	1000.2333			Y		(1.102E-02)			5%			(0.000E+00)	16.133712		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211 — Alpha Spec, Uiso by ALP , Calculated Results — 7/19/2006 7:28:47 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**75.920124**		3.83644E+00	10.446626	10.446626	1.00 SA	104%				
				(5.598267)		(1.3858E-01)	(0.490532)	(0.490532)	(0.027066)					
	07/19/06	U-234	R	**0.19776**	U4	9.99334E-03	0.027212	0.027212	1.00 SA	104%		0.267965		
				(0.140721)		(7.0664E-03)	(0.019301)	(0.019301)	(0.027066)					
	07/19/06	U-235	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	104%		0.267965		
				(0.121103)		(0.0000E+00)	(0.016664)	(0.016664)	(0.027066)					
	07/19/06	U-238	R	**-0.019785**	U4	-9.99767E-04	-0.002722	-0.002722	1.00 SA	104%		0.473635		
				(0.019847)		(9.9977E-04)	(0.002727)	(0.002727)	(0.027066)			0.102896		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M1C1AG**	**PCI/SA**		06/13/06 13:00	07/18/06 23:45			1	1.00 SA	
536403,000499					,J6G030156-13 v4.8.18		FILTER					UITC15960 Alq		0.061516 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:05	U-232	705	26	ALP69	ED	Y	N	3.7411E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0166			Y		(1.122E-02)						(0.000E+00)	16.255929		
1	07/18/06 22:05	U-234	0	5	ALP69	ED	N	N	3.7411E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	16.255929		
2	07/18/06 22:05	U-235	0	3	ALP69	ED	N	N	3.7411E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	16.255929		
3	07/18/06 22:05	U-238	0	7	ALP69	ED	N	N	3.7411E-01		N	94%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.05	2500.0166			Y		(1.122E-02)			5%			(0.000E+00)	16.255929		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**68.774015**		3.51372E+00	9.392171	9.392171	1.00 SA	94%				
				(5.128045)		(1.3274E-01)	(0.453087)	(0.453087)	(0.027066)					
	07/19/06	U-234	R	**-0.041843**	U4	-1.99999E-03	-0.005714	-0.005714	1.00 SA	94%		0.591026		
				(0.019013)		(8.9442E-04)	(0.002576)	(0.002576)	(0.027066)			0.153895		
	07/19/06	U-235	R	**-0.025106**	U4	-1.19999E-03	-0.003429	-0.003429	1.00 SA	94%		0.52169		
				(0.014635)		(6.9282E-04)	(0.001989)	(0.001989)	(0.027066)			0.119206		
	07/19/06	U-238	R	**-0.058581**	U4	-2.79998E-03	-0.008	-0.008	1.00 SA	94%		0.647384		
				(0.022636)		(1.0583E-03)	(0.003058)	(0.003058)	(0.027066)			0.182091		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M1E1AG**	**PCI/SA**		06/13/06 09:00	07/18/06 23:46			1	1.00 SA	
536403,000500					,J6G030156-14 v4.8.18		FILTER					UITC15961 Alq		0.062562 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:06	U-232	718	28	ALP71	ED	Y	N	3.6536E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.0333			Y		(1.096E-02)						(0.000E+00)	15.984029		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:14 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211 Alpha Spec, UIso by ALP , Calculated Results 7/19/2006 7:28:47 AM

1	07/18/06 22:06	U-234	0	3	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	2500.0333			Y		(1.096E-02)		5%		(0.000E+00)	15.984029	
2	07/18/06 22:06	U-235	0	3	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	2500.0333			Y		(1.096E-02)		5%		(0.000E+00)	15.984029	
3	07/18/06 22:06	U-238	0	4	ALP71	ED	N	N	3.6536E-01	N	97%	N	1.0000E+00	4.5045E-01	1.0000E+00
			200.1	2500.0333			Y		(1.096E-02)		5%		(0.000E+00)	15.984029	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**70.489971**		3.57701E+00	9.790266	9.790266	1.00 SA	97%				
				(5.244)		(1.3393E-01)	(0.469713)	(0.469713)	(0.027066)					
	07/19/06	U-234	R	**-0.024292**	**U4**	-1.19998E-03	-0.003374	-0.003374	1.00 SA	97%		0.504676		
				(0.01416)		(6.9281E-04)	(0.001957)	(0.001957)	(0.027066)			0.115326		
	07/19/06	U-235	R	**-0.024292**	**U4**	-1.19998E-03	-0.003374	-0.003374	1.00 SA	97%		0.504676		
				(0.01416)		(6.9281E-04)	(0.001957)	(0.001957)	(0.027066)			0.115326		
	07/19/06	U-238	R	**-0.032389**	**U4**	-1.59998E-03	-0.004498	-0.004498	1.00 SA	97%		0.540336		
				(0.016402)		(7.9999E-04)	(0.002264)	(0.002264)	(0.027066)			0.133167		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8M1G1AG**	**PCI/SA**		06/13/06 00:00	07/18/06 23:46			1	1.00 SA	
536403,000501					,J6G030156-15 v4.8.18		FILTER					UITC15962 Alq		0.061802 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:06	U-232	708	20	ALP83	ED	Y	N	3.4771E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.0333			Y		(1.043E-02)						(0.000E+00)	16.180649		
1	07/18/06 22:06	U-234	0	5	ALP83	ED	N	N	3.4771E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.180649		
2	07/18/06 22:06	U-235	0	2	ALP83	ED	N	N	3.4771E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.180649		
3	07/18/06 22:06	U-238	0	4	ALP83	ED	N	N	3.4771E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1	2500.0333			Y		(1.043E-02)			5%			(0.000E+00)	16.180649		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**74.000478**		3.53023E+00	10.152944	10.152944	1.00 SA	101%				
				(5.513733)		(1.3299E-01)	(0.488935)	(0.488935)	(0.027066)					
	07/19/06	U-234	R	**-0.041923**	**U4**	-1.99997E-03	-0.005752	-0.005752	1.00 SA	101%		0.59205		
				(0.019049)		(8.9442E-04)	(0.002593)	(0.002593)	(0.027066)			0.15417		
	07/19/06	U-235	R	**-0.016769**	**U4**	-7.99989E-04	-0.002301	-0.002301	1.00 SA	101%		0.478788		
				(0.011934)		(5.6568E-04)	(0.001632)	(0.001632)	(0.027066)			0.097506		
	07/19/06	U-238	R	**-0.033539**	**U4**	-1.59998E-03	-0.004602	-0.004602	1.00 SA	101%		0.559517		
				(0.016984)		(7.9999E-04)	(0.002316)	(0.002316)	(0.027066)			0.137894		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211 — Alpha Spec, Uiso by ALP , Calculated Results — 7/19/2006 7:28:47 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8W1L1AA**	**PCI/SA**	**B**	06/12/06 14:25	07/18/06 23:46			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G100000-211		FILTER					UITC16016 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:06	U-232	709	25	ALP84	ED	Y	N	3.4843E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.15			Y		(1.045E-02)						(0.000E+00)	1.00		
1	07/18/06 22:06	U-234	0	3	ALP84	ED	N	N	3.4843E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	1.00		
2	07/18/06 22:06	U-235	0	2	ALP84	ED	N	N	3.4843E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	1.00		
3	07/18/06 22:06	U-238	2	0	ALP84	ED	N	N	3.4843E-01		N	101%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1166666	2500.15			Y		(1.045E-02)			5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**4.567347**		3.53293E+00	10.13952	10.13952	1.00 SA	101%				
				(0.326773)		(1.3307E-01)	(0.488253)	(0.488253)	(0.017321)					
	07/19/06	U-234	R	**-0.001551**	U4	-1.19993E-03	-0.003444	-0.003444	1.00 SA	101%		0.032227		
				(0.000904)		(6.9278E-04)	(0.001998)	(0.001998)	(0.017321)			0.007365		
	07/19/06	U-235	R	**-0.001034**	U4	-7.99952E-04	-0.002296	-0.002296	1.00 SA	101%		0.029526		
				(0.000736)		(5.6565E-04)	(0.001629)	(0.001629)	(0.017321)			0.006013		
	07/19/06	U-238	R	**0.01292**	U4	9.99417E-03	0.028683	0.028683	1.00 SA	101%		0.017507		
				(0.009191)		(7.0669E-03)	(0.020347)	(0.020347)	(0.017321)					

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	SR	FILTER	*STLE	AlpIsoWoBS	**H8W1L1AC**	**PCI/SA**	**S**	06/12/06 14:25	07/18/06 23:46		UISF0461	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G100000-211		FILTER					UISF0461 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/18/06 22:06	U-232	500	45	ALP85	ED	Y	N	2.5840E-01		N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	2500.1166			Y		(7.752E-03)						(0.000E+00)	1.00		
1	07/18/06 22:06	U-234	105	5	ALP85	ED	N	N	2.5840E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
2	07/18/06 22:06	U-235	5	1	ALP85	ED	N	N	2.5840E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	1.00		
3	07/18/06 22:06	U-238	96	0	ALP85	ED	N	N	2.5840E-01		N	96%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			200.1666666	2500.1166			Y		(7.752E-03)			5%			(0.000E+00)	1.00		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17 RADCALC v4.8.18
STL Richland

Batch Nbr: 6191211

Alpha Spec, Uiso by ALP , Calculated Results

7/19/2006 7:28:47 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/19/06	U-232	R	**4.323098**		2.47992E+00	9.597287	9.597287	1.00 SA	96%				
				(0.327253)		(1.1174E-01)	(0.519523)	(0.519523)	(0.017321)					
	07/19/06	U-234	R	**0.950684**		5.22563E-01	2.110521	2.110521	1.00 SA	96%	98%	0.051371		
				(0.121115)		(5.1200E-02)	(0.244585)	(0.244585)	(0.017321)			0.013378		
	07/19/06	U-235	R	**0.044716**		2.45792E-02	0.09927	0.09927	1.00 SA	96%	101%	0.036589		
				(0.02066)		(1.1178E-02)	(0.045562)	(0.045562)	(0.017321)			0.005983		
	07/19/06	U-238	R	**0.872523**		4.79600E-01	1.937004	1.937004	1.00 SA	96%	86%	0.024631		
				(0.11392)		(4.8949E-02)	(0.231203)	(0.231203)	(0.017321)					

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

RecCnt:17

RADCALC v4.8.18

STL Richland

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

SEVERN TRENT STL

URANIUM ISOTOPIC COUNTING REQUEST

7/19
0124

C.R. Technician OR

Date Counted 7/18/06

Counting Time
Sample 200 Minutes
Background See Alpha Regions Report
BRC 6/12/06

SOP's
Operating: RICHRD008
Review: RICHRD0016

6191211

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H8MXT1AG	See Counting Room Printout for ROI information				1	
H8MXV1AG	See Counting Room Printout for ROI information				2	
H8MXW1AG	See Counting Room Printout for ROI information				3	
H8MXX1AG	See Counting Room Printout for ROI information				4	
H8MX31AG	See Counting Room Printout for ROI information				5	
H8MX61AG	See Counting Room Printout for ROI information				6	
H8MX81AG	See Counting Room Printout for ROI information				7	
H8M0K1AG	See Counting Room Printout for ROI information				8	
	See Counting Room Printout for ROI information					

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: S

Date: 7/19/06

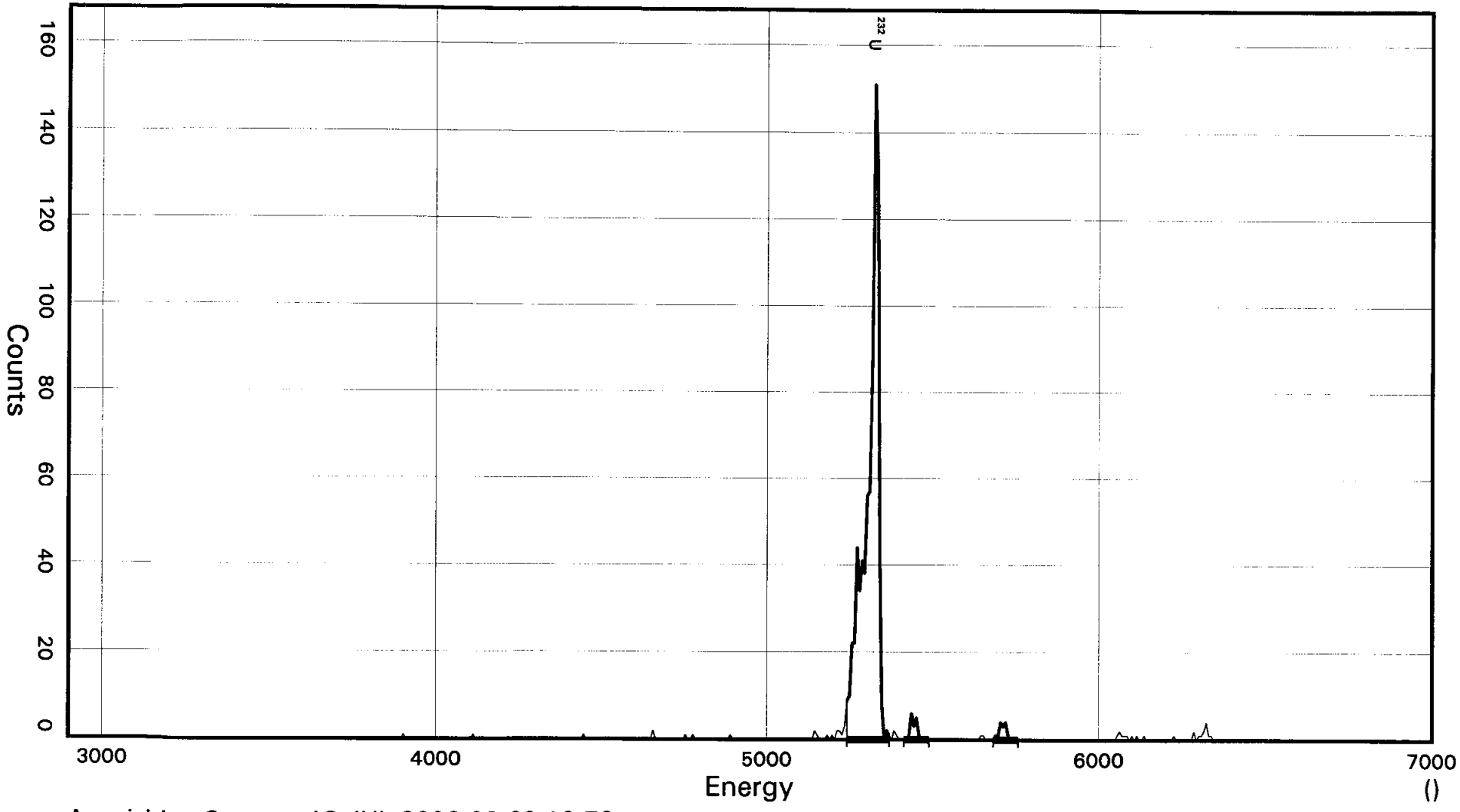
STL Richland WA.

U BRC

Sample ID: H8MXT1AG

Detector ID: ALP1 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:03:12.73

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:

Offset: 2.87647E+03

Slope: 7.49971E+00

Quadrature: -4.75056E-05

SAMPLE IDENTIITY: H8MXT1AG

TITLE : U BRC

DETECTOR : ALP1 1
CONFIGURATION NAME : $DISK1:[ALP1.SAMPLE]H8MXT1AG_180762203.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:56:57

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:03:12 CALIB DATE : 06-JUL-2006 01:18:50

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 2876.47 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.49971 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.475056E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXT1AG

Detector: ALP1 1
Report Date: 19-Jul-06 01:23 AM
Acquire Date: 18-JUL-2006 22:03:12.73
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	768	3	0	3.836	5320.9	127.0	316	333	0.00	0.00	P
U-234	2	2	0	0.008	4775.4	127.1	243	260	0.00	0.00	
U-235	1	2	0	0.003	4398.6	127.2	193	210	0.00	0.00	
U-238	0	4	0	-0.004	4198.8	127.2	166	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXT1AG
Detector: ALP1 1
Report Date: 19-Jul-06 01:23 AM
Acquire Date: 18-JUL-2006 22:03:12.73

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	1	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	2		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	1	+	254	1		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	2		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	1		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		459	0		509
0		10	0		60	0		110	0		160	1	+	210	0	+	260	1		310	0		360	0		410	2		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	4		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	2		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	2		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	1		165	0		215	0		265	3		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	9	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	10	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	22	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	1		269	22	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	44	+	320	1		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	34	+	321	1		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	41	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	38	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	56	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	57	+	325	0		375	1		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	88	+	326	1		376	2		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	151	+	327	1		377	1		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	132	+	328	4		378	1		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	46	+	329	3		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	8	+	330	4		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	0	+	331	1		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	2	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	1		333	0		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	2		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	1		336	0		386	1		436	0		486			
0		37	0		87	1		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	2		238	0		288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	1		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	6		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	3		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	5		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	1		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:23:33

Configuration : $DISK1:[ALP1.SAMPLE]H8MXT1AG_180762203.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:12
Sample ID : H8MXT1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP1 Detector geometry:
Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
Start energy : 2898.97 End energy : 6703.87
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5320.92	768	0	45.00	326.62	316	17	6.40E-02	3.6	
2	0	5440.79	16	0	30.00	342.67	339	10	1.33E-03	25.0	
3	0	5712.04	15	0	37.50	379.00	375	10	1.25E-03	25.8	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:23:35

```
Configuration     : $DISK1:[ALP1.SAMPLE]H8MXT1AG_180762203.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:12
Sample ID         : H8MXT1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP1                 Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                3
 Number of unidentified lines                     2
 Number of lines tentatively identified by NID    1       33.33%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP1.SAMPLE]H8MXT1AG_180762203.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5320.92	316	333	768	761	0.25		
5440.79	339	349	16	16	0.00		
5712.03	375	385	15	14	0.26		

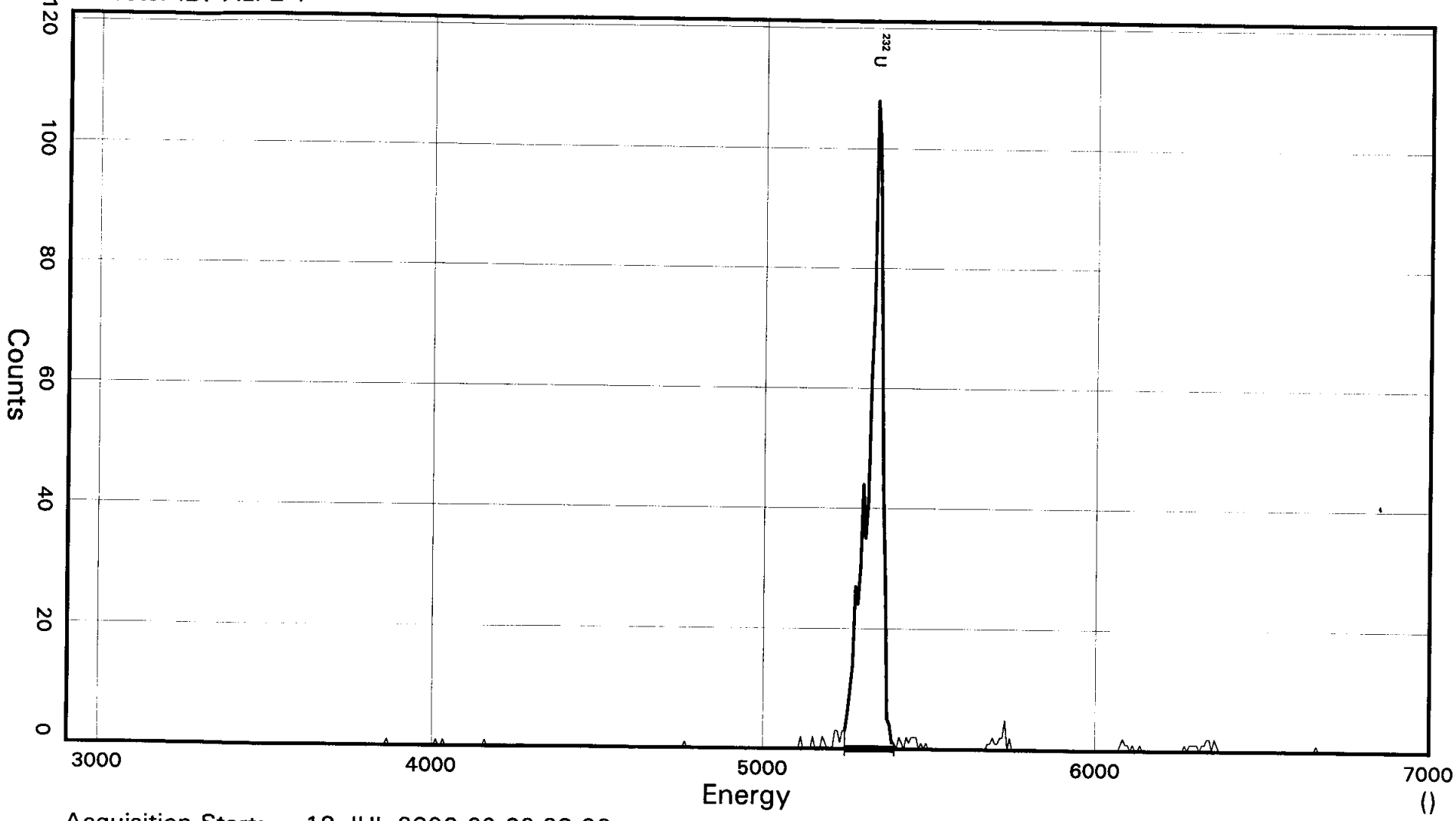
End of Report

STL Richland WA.

U BRC

Sample ID: H8MXV1AG
Detector ID: ALP2 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:03:28.92
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.88585E+03
Slope: 7.35469E+00
Quadrature: 6.81728E-05

SAMPLE IDENTIITY: H8MXV1AG

TITLE : U BRC

DETECTOR : ALP2 1
CONFIGURATION NAME : $DISK1:[ALP2.SAMPLE]H8MXV1AG_180762203.CNF;1

ACQUIRE DATE of BACKGROUND: 08-JUL-2006 07:51:36

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:03:28 CALIB DATE : 08-JUL-2006 03:11:43

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 2885.85 keV CONSTANT FWHM : 10.00000 Channels
SLOPE : 7.35469 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 6.817280E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXV1AG

Detector: ALP2 1
Report Date: 19-Jul-06 02:05 AM
Acquire Date: 18-JUL-2006 22:03:28.92
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	735	15	0	3.659	5335.6	148.0	320	340	0.00	0.00	P
U-234	1	0	0	0.005	4790.0	147.8	246	266	0.00	0.00	
U-235	0	3	0	-0.003	4413.2	147.7	195	215	0.00	0.00	
U-238	1	3	0	0.002	4213.4	147.6	168	188	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXV1AG
Detector: ALP2 1
Report Date: 19-Jul-06 02:05 AM
Acquire Date: 18-JUL-2006 22:03:28.92

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	2		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	1		153	0	+	203	0	+	253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	1	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	1		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	2		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	1		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	2		311	0		361	0		411	1		461	1		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	1		312	0		362	0		412	1		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	1		465			
0		16	0		66	0		116	0		166	0		216	0	+	266	3		316	0		366	0		416	1		466			
0		17	0		67	0		117	0		167	0		217	0		267	3		317	0		367	0		417	2		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	1		318	0		368	0		418	2		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	3		319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	3	+	320	0		370	0		420	2		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	6	+	321	0		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	10	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	1	+	173	0		223	0		273	14	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	27	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	24	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	30	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	44	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	35	+	328	1		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	41	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	62	+	330	2		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	73	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	108	+	332	1		382	1		432	0		482			
0		33	0		83	1		133	0	+	183	0		233	0		283	101	+	333	2		383	2		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	73	+	334	2		384	1		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	43	+	335	5		385	1		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	28	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	5	+	337	2		387	1		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	4	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	1		340	0		390	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	2		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	2		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	2		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 02:05:06

Configuration : $DISK1:[ALP2.SAMPLE]H8MXV1AG_180762203.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:28
Sample ID : H8MXV1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP2 Detector geometry:
Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 04:01:16.00 17%
Start energy : 2907.92 End energy : 6669.33
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5335.61	735	0	51.48	332.07	320	20	6.12E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 02:05:09

```
Configuration     : $DISK1:[ALP2.SAMPLE]H8MXV1AG_180762203.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:28
Sample ID         : H8MXV1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP2                 Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 04:01:16.00    17%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP2.SAMPLE]H8MXV1AG_180762203.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5335.61	320	340	735	733	0.07		

End of Report

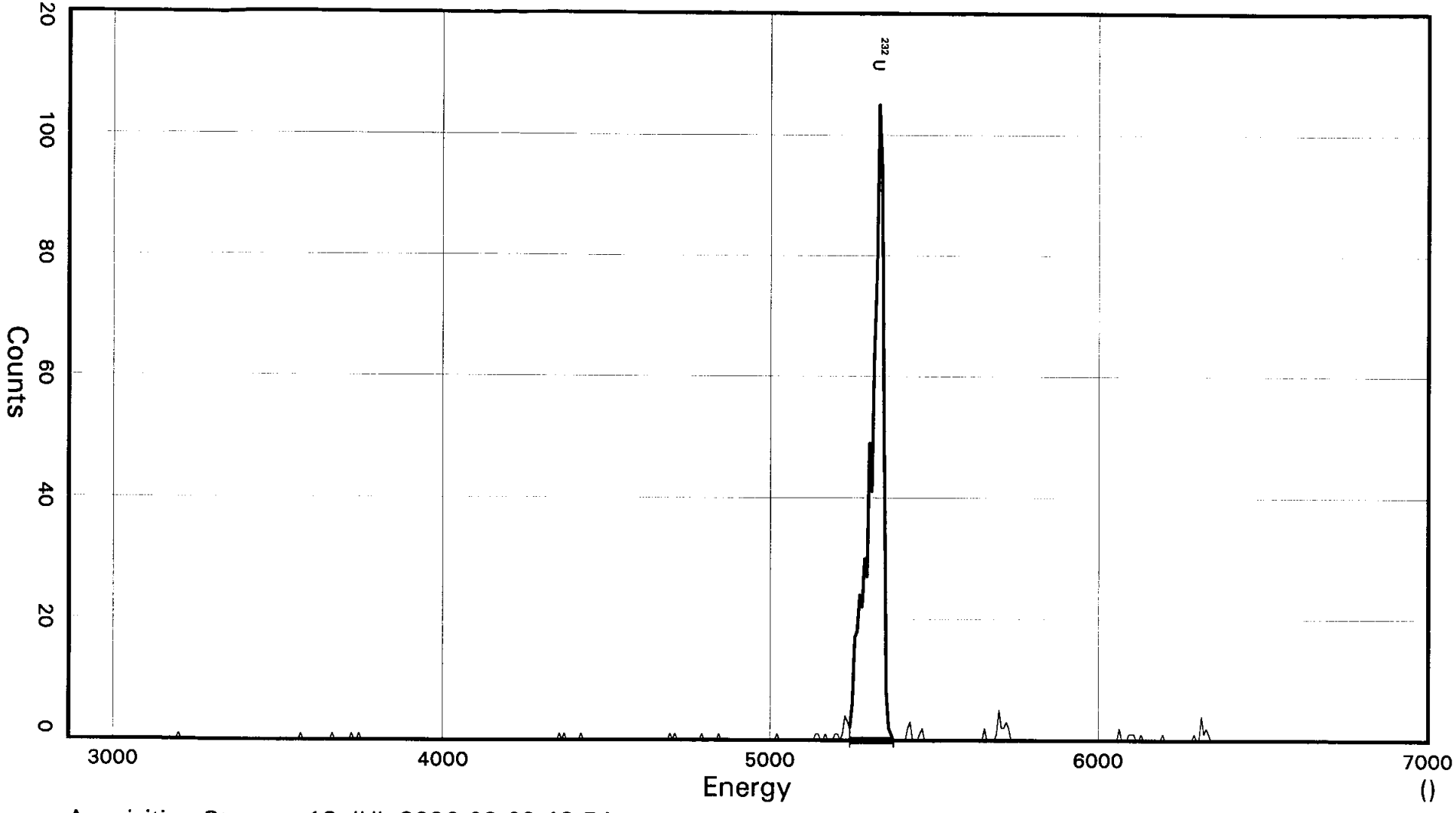
STL Richland WA.

U BRC

Sample ID: H8MXW1AG

Detector ID: ALP3 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:03:43.54

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:10.00

Energy Coefficients:

Offset: 2.84210E+03

Slope: 7.41508E+00

Quadrature: -9.63550E-05

SAMPLE IDENTIITY: H8MXW1AG

TITLE : U BRC

DETECTOR : ALP3 1
CONFIGURATION NAME : $DISK1:[ALP3.SAMPLE]H8MXW1AG_180762203.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:01

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:03:43 CALIB DATE : 06-JUL-2006 01:19:25

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:10

OFFSET : 2842.10 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 7.41508 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.963550E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXW1AG

Detector: ALP3 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:03:43.54
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	650	8	0	3.239	5326.6	132.3	325	343	0.00	0.00	P
U-234	3	7	0	0.008	4781.0	132.6	251	269	0.00	0.00	
U-235	3	3	0	0.012	4404.2	132.7	200	218	0.00	0.00	
U-238	0	6	0	-0.006	4204.4	132.8	173	191	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXW1AG
Detector: ALP3 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:03:43.54

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	1	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	1	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	1	+	205	0	+	255	0		305	2		355	0		405	1		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	1	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	1		111	0		161	0	+	211	0	+	261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	1	+	214	1	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	1		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	1		468			
0		19	0		69	1		119	0		169	0		219	0	+	269	1		319	0		369	0		419	0		469			
0		20	0		70	0		120	0		170	0		220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	1		271	0		321	0		371	0		421	4		471			
0		22	0		72	1		122	0		172	0		222	0		272	1		322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	4		323	0		373	0		423	2		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	3		324	0		374	0		424	1		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	2	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	6	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	17	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	18	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	24	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	22	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	30	+	331	2		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	27	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	49	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	41	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	64	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	78	+	336	1		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	105	+	337	5		387	2		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	95	+	338	2		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	51	+	339	2		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	8	+	340	3		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	2	+	341	2		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	1	+	342	0		392	1		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	1		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	1		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	1		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	0		447	0		497			
1		48	1		98	0		148	0		198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0		250	0		300	3		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:24:13

Configuration : $DISK1:[ALP3.SAMPLE]H8MXW1AG_180762203.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:43
Sample ID : H8MXW1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP3 Detector geometry:
Elapsed live time: 0 03:20:10.00 Elapsed real time: 0 03:20:10.00 0.0%
Start energy : 2864.35 End energy : 6613.36
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5326.58	650	0	44.49	336.53	325	18	5.41E-02	3.9	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:24:15

```
Configuration     : $DISK1:[ALP3.SAMPLE]H8MXW1AG_180762203.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:43
Sample ID         : H8MXW1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP3                 Detector geometry:
Elapsed live time: 0 03:20:10.00         Elapsed real time: 0 03:20:10.00   0.0%
Energy tolerance :    40.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP3.SAMPLE]H8MXW1AG_180762203.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5326.58	325	343	650	640	0.39		

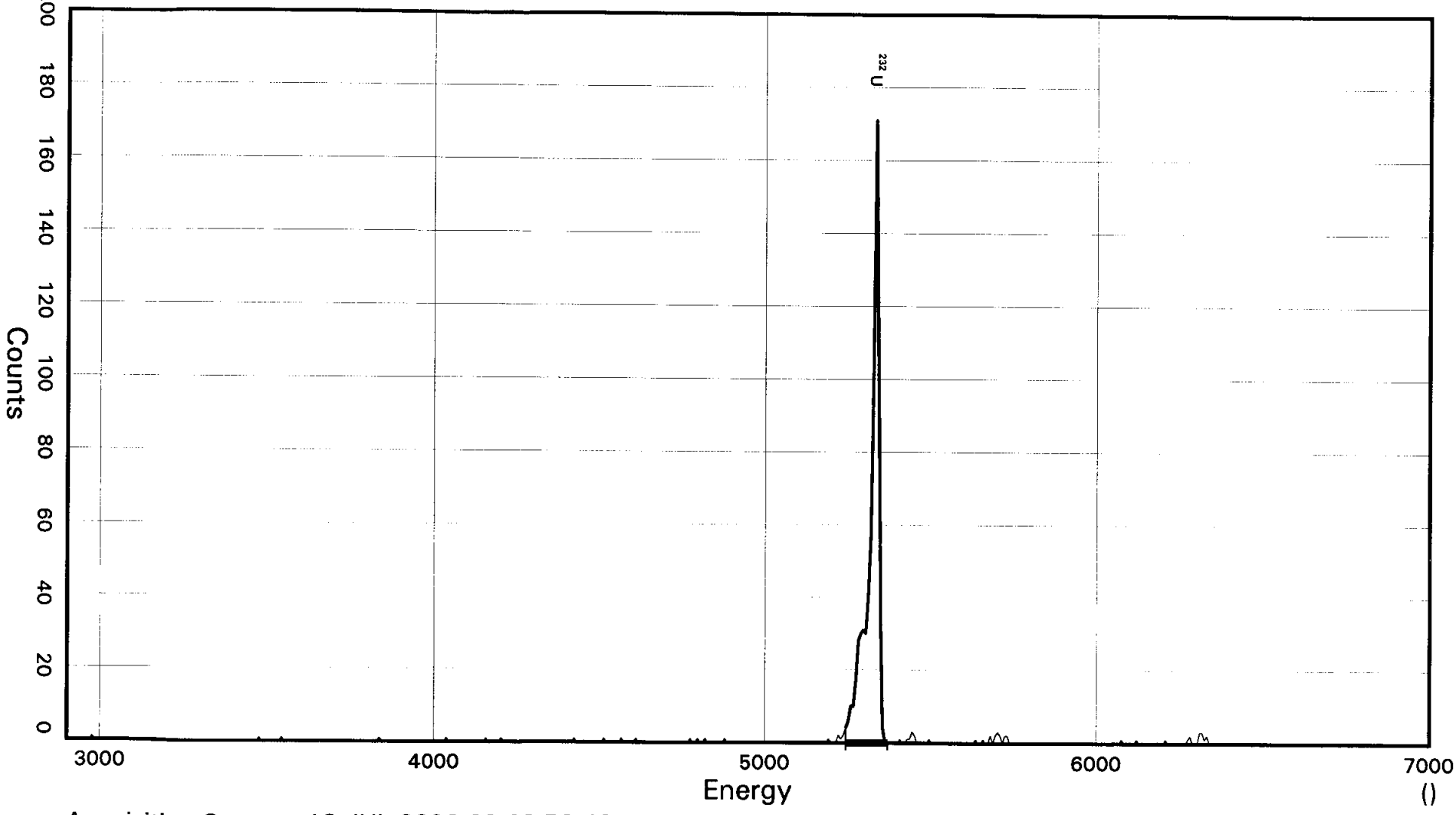
End of Report

STL Richland WA.

U BRC

Sample ID: H8MXX1AG
Detector ID: ALP4 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:03:53.48
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:00.00

Energy Coefficients:
Offset: 2.87930E+03
Slope: 7.56500E+00
Quadrature: -2.63100E-04

SAMPLE IDENTITY: H8MXX1AG

TITLE : U BRC

DETECTOR : ALP4 1
CONFIGURATION NAME : $DISK1:[ALP4.SAMPLE]H8MXX1AG_180762203.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:04

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:03:53 CALIB DATE : 06-JUL-2006 01:19:39

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:00

OFFSET : 2879.30 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.56500 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.263100E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MXX1AG

Detector: ALP4 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:03:53.48
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	685	5	0	3.420	5329.5	125.7	316	333	0.00	0.00	P
U-234	3	6	0	0.009	4783.9	126.4	242	259	0.00	0.00	
U-235	1	1	0	0.004	4407.1	126.8	192	209	0.00	0.00	
U-238	2	6	0	0.004	4207.3	127.1	165	182	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MXX1AG
Detector: ALP4 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:03:53.48

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	1	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	1		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	1	+	206	1	+	256	0		306	0		356	0		406	1		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	2		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	1	+	259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	0		311	0		361	0		411	3		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	0		312	0		362	0		412	3		462	0		512
1		13	0		63	0		113	0		163	0		213	0		263	2		313	0		363	0		413	1		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	2		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	2		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	4	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	1		267	6	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	1		218	0		268	10	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	10	+	319	1		369	0		419	0		469			
0		20	0		70	0		120	1	+	170	0		220	0		270	17	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	28	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	30	+	322	1		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	31	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	30	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	1		225	0		275	40	+	325	2		375	0		425	0		475			
0		26	0		76	0		126	1	+	176	0		226	0		276	57	+	326	0		376	0		426	0		476			
0		27	0		77	1		127	0	+	177	0		227	0		277	101	+	327	2		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	171	+	328	3		378	0		428	0		478			
0		29	1		79	0		129	0	+	179	0		229	0		279	105	+	329	2		379	1		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	34	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	1		231	0		281	4	+	331	2		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	0	+	332	2		382	0		432	0		482			
0		33	0		83	0		133	0		183	0		233	0		283	0		333	0		383	0		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	0		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	1		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	1		88	0		138	0		188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	1		341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0	+	242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	3		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	2		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:24:17

Configuration : $DISK1:[ALP4.SAMPLE]H8MXX1AG_180762203.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:03:53
Sample ID : H8MXX1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP4 Detector geometry:
Elapsed live time: 0 03:20:00.00 Elapsed real time: 0 03:20:00.00 0.0%
Start energy : 2901.99 End energy : 6683.60
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5329.47	685	0	30.26	327.62	316	17	5.71E-02	3.8	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:24:19

Configuration	: $DISK1:[ALP4.SAMPLE]H8MXX1AG_180762203.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:03:53
Sample ID	: H8MXX1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP4	Detector geometry	:
Elapsed live time	: 0 03:20:00.00	Elapsed real time	: 0 03:20:00.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP4.SAMPLE]H8MXX1AG_180762203.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5329.46	316	333	685	678	0.27		

End of Report

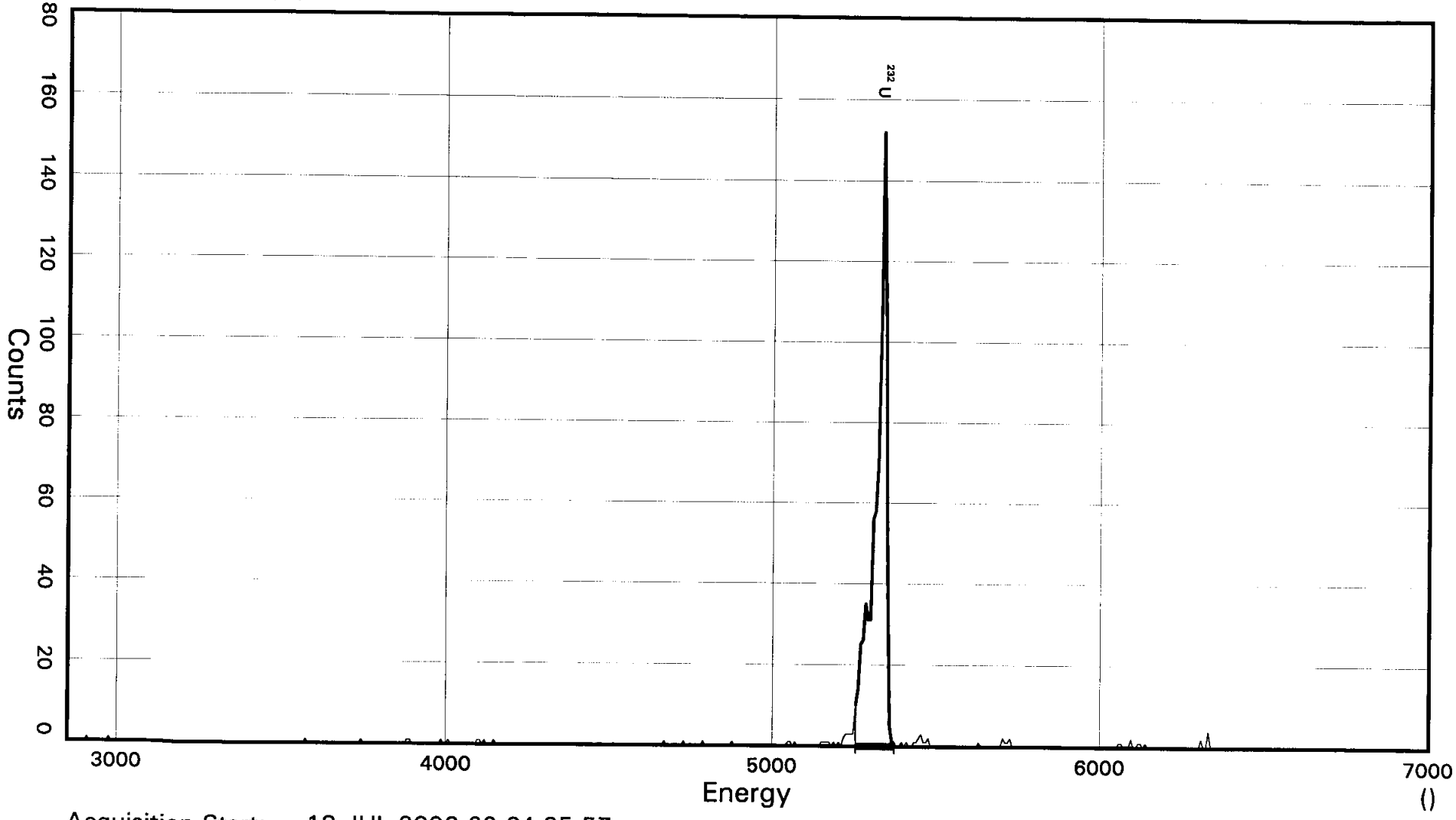
STL Richland WA.

U BRC

Sample ID: H8MX31AG

Detector ID: ALP5 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:04:05.57

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:

Offset: 2.82947E+03

Slope: 7.36520E+00

Quadrature: 1.24622E-05

SAMPLE IDENTITY: H8MX31AG

TITLE : U BRC

DETECTOR : ALP5 1
CONFIGURATION NAME : $DISK1:[ALP5.SAMPLE]H8MX31AG_180762204.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:10

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:04:05 CALIB DATE : 06-JUL-2006 01:19:33

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:01

OFFSET : 2829.47 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 7.36520 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.246220E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MX31AG

Detector: ALP5 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:04:05.57
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	764	10	0	3.810	5331.7	118.0	329	345	0.00	0.00	P
U-234	2	4	0	0.006	4786.1	117.9	255	271	0.00	0.00	
U-235	0	2	0	-0.002	4409.3	117.9	204	220	0.00	0.00	
U-238	1	4	0	0.001	4209.5	117.9	177	193	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MX31AG
Detector: ALP5 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:04:05.57

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	1		101	0		151	0		201	0		251	1		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	1		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0		254	1		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	2		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	3		356	0		406	0		456	0		506
0		7	0		57	0		107	1		157	0	+	207	0	+	257	0		307	1		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	1	+	258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	2		359	0		409	0		459	0		509
0		10	0		60	0		110	1		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
1		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	1		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	1	+	266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	1		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	0		319	0		369	0		419	0		469			
1		20	0		70	0		120	0		170	0	+	220	0	+	270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	0	+	271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	1		172	0		222	0		272	1		322	0		372	0		422	2		472			
0		23	0		73	0		123	1		173	0		223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	1		124	0		174	0		224	0		274	2		324	0		374	0		424	0		474			
0		25	0		75	0		125	1		175	0		225	0		275	3		325	0		375	0		425	4		475			
0		26	0		76	0		126	0		176	0		226	0		276	3		326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	3		327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	1		278	3		328	0		378	0		428	0		478			
0		29	0		79	0		129	1	+	179	0		229	0		279	10	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	14	+	330	1		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	25	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	26	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	35	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	31	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	31	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	56	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	58	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	70	+	338	0		388	1		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	107	+	339	0		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	152	+	340	2		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	100	+	341	1		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	39	+	342	1		392	0		442	0		492			
0		43	0		93	1		143	0	+	193	0		243	0		293	5	+	343	2		393	2		443	0		493			
0		44	0		94	1		144	0		194	0		244	0		294	1	+	344	0		394	0		444	0		494			
0		45	0		95	0		145	0		195	0		245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0		196	0		246	0		296	0		346	0		396	1		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	1		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	0		349	0		399	1		449	0		499			
0		50	0		100	0		150	0		200	1		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:24:24

```
Configuration     : $DISK1:[ALP5.SAMPLE]H8MX31AG_180762204.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:04:05
Sample ID         : H8MX31AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP5                 Detector geometry:
Elapsed live time: 0 03:20:01.00         Elapsed real time: 0 03:20:01.00   0.0%
Start energy      :  2851.57             End energy       :  6603.72
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5331.68	764	0	29.46	339.54	329	16	6.37E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:24:26

Configuration	: $DISK1:[ALP5.SAMPLE]H8MX31AG_180762204.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:04:05
Sample ID	: H8MX31AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP5	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP5.SAMPLE]H8MX31AG_180762204.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5331.68	329	345	764	761	0.11		

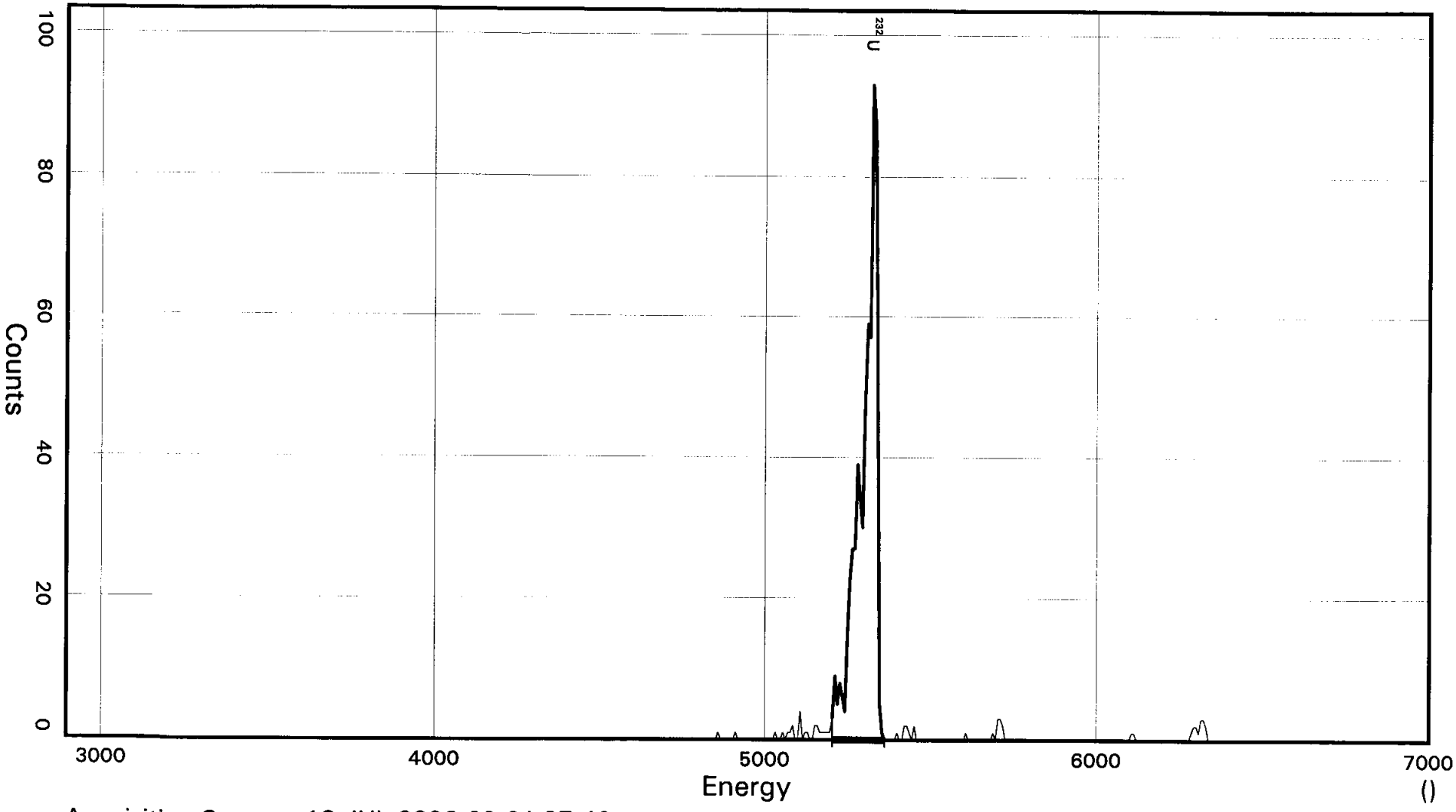
End of Report

STL Richland WA.

U BRC

Sample ID: H8MX61AG
Detector ID: ALP6 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:04:27.42
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:
Offset: 2.87271E+03
Slope: 7.47367E+00
Quadrature: -1.34779E-05

SAMPLE IDENTIITY: H8MX61AG

TITLE : U BRC

DETECTOR : ALP6 1
CONFIGURATION NAME : $DISK1:[ALP6.SAMPLE]H8MX61AG_180762204.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:12

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:04:27 CALIB DATE : 06-JUL-2006 01:19:16

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 2872.71 keV CONSTANT FWHM : 6.83333 Channels
SLOPE : 7.47367 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.134779E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MX61AG

Detector: ALP6 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:04:27.42
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	630	5	0	3.144	5319.8	156.8	312	333	0.00	0.00	P
U-234	0	0	0	0.000	4774.3	156.8	239	260	0.00	0.00	
U-235	0	1	0	-0.001	4397.5	156.8	188	209	0.00	0.00	
U-238	0	2	0	-0.002	4197.7	156.8	162	183	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MX61AG
Detector: ALP6 1
Report Date: 19-Jul-06 01:24 AM
Acquire Date: 18-JUL-2006 22:04:27.42

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	1		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	1		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	2		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	2		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	1		307	0		357	0		407	1		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	1		308	0		358	0		408	2		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	1		309	0		359	0		409	2		459	0		509
0		10	0		60	0		110	0		160	0		210	0	+	260	1		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	1		311	0		361	0		411	3		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	3	+	312	0		362	0		412	3		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	9	+	313	0		363	0		413	2		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	5	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	8	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	1		266	6	+	316	1		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	4	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	15	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	23	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	27	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	27	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	39	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	1		273	34	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	30	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	48	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	59	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	57	+	327	1		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	93	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	87	+	329	3		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	48	+	330	3		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	5	+	331	2		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	1	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	0		333	0		383	1		433	0		483			
0		34	0		84	0		134	0		184	0		234	0		284	0		334	0		384	1		434	0		484			
0		35	0		85	0		135	0		185	0		235	0		285	0		335	0		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0	+	239	1		289	0		339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0	+	241	0		291	2		341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0	+	242	1		292	2		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	1		294	0		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	1		295	2		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	2		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	4		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:24:46

Configuration : $DISK1:[ALP6.SAMPLE]H8MX61AG_180762204.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:04:27
Sample ID : H8MX61AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP6 Detector geometry:
Elapsed live time: 0 03:20:04.00 Elapsed real time: 0 03:20:04.00 0.0%
Start energy : 2895.13 End energy : 6695.69
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5319.84	630	0	44.84	327.63	312	21	5.25E-02	4.0	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:24:48

Configuration	: $DISK1:[ALP6.SAMPLE]H8MX61AG_180762204.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:04:27
Sample ID	: H8MX61AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP6	Detector geometry	:
Elapsed live time	: 0 03:20:04.00	Elapsed real time	: 0 03:20:04.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP6.SAMPLE]H8MX61AG_180762204.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.84	312	333	630	628	0.08		

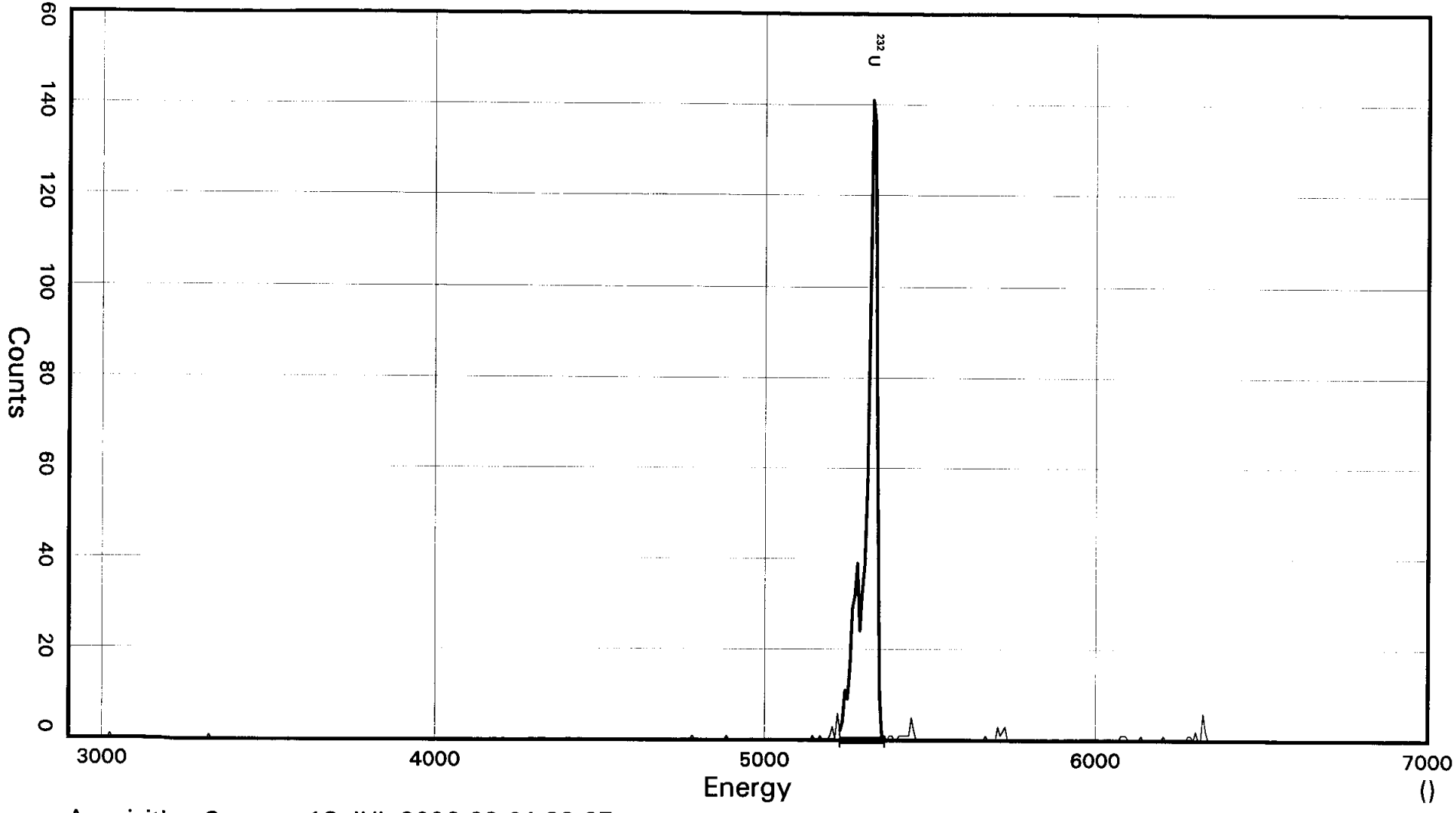
End of Report

STL Richland WA.

U BRC

Sample ID: H8MX81AG
Detector ID: ALP7 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:04:38.37
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:05.00

Energy Coefficients:
Offset: 2.87750E+03
Slope: 7.33452E+00
Quadrature: 1.65007E-04

SAMPLE IDENTIITY: H8MX81AG

TITLE : U BRC

DETECTOR : ALP7 1
CONFIGURATION NAME : $DISK1:[ALP7.SAMPLE]H8MX81AG_180762204.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:16

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:04:38 CALIB DATE : 06-JUL-2006 01:19:10

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:05

OFFSET : 2877.50 keV CONSTANT FWHM : 6.66667 Channels
SLOPE : 7.33452 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 1.650070E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8MX81AG

Detector: ALP7 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:04:38.37
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	747	3	0	3.730	5323.6	134.0	318	336	0.00	0.00	P
U-234	1	1	0	0.004	4778.0	133.5	245	263	0.00	0.00	
U-235	0	0	0	0.000	4401.2	133.2	194	212	0.00	0.00	
U-238	0	1	0	-0.001	4201.4	133.1	167	185	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8MX81AG
Detector: ALP7 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:04:38.37

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	1		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	1	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	1		459	0		509
0		10	1		60	0		110	0		160	0	+	210	0	+	260	1		310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	2		462	0		512
0		13	0		63	0		113	0		163	0		213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	3		315	0		365	0		415	6		465			
0		16	0		66	0		116	0		166	0		216	0		266	0		316	0		366	0		416	2		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	6		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	2	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	4	+	319	0		369	0		419	0		469			
1		20	0		70	0		120	0	+	170	0		220	0		270	11	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	9	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	1		272	16	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	29	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	32	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	39	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	24	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	33	+	327	1		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	39	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	58	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	93	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	141	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	136	+	332	3		382	1		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	60	+	333	1		383	1		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	10	+	334	2		384	1		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	0	+	335	3		385	0		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	1		336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	1		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1		339	0		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0		340	0		390	1		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	1		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	1		344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	5		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	1		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:24:58

```
Configuration     : $DISK1:[ALP7.SAMPLE]H8MX81AG_180762204.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:04:38
Sample ID         : H8MX81AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP7                 Detector geometry:
Elapsed live time: 0 03:20:05.00         Elapsed real time: 0 03:20:05.00   0.0%
Start energy      :  2899.51             End energy       :  6676.03
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5323.62	747	0	36.67	331.04	318	18	6.22E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:25:00

Configuration	: $DISK1:[ALP7.SAMPLE]H8MX81AG_180762204.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:04:38
Sample ID	: H8MX81AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP7	Detector geometry	:
Elapsed live time	: 0 03:20:05.00	Elapsed real time	: 0 03:20:05.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP7.SAMPLE]H8MX81AG_180762204.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5323.61	318	336	747	737	0.37		

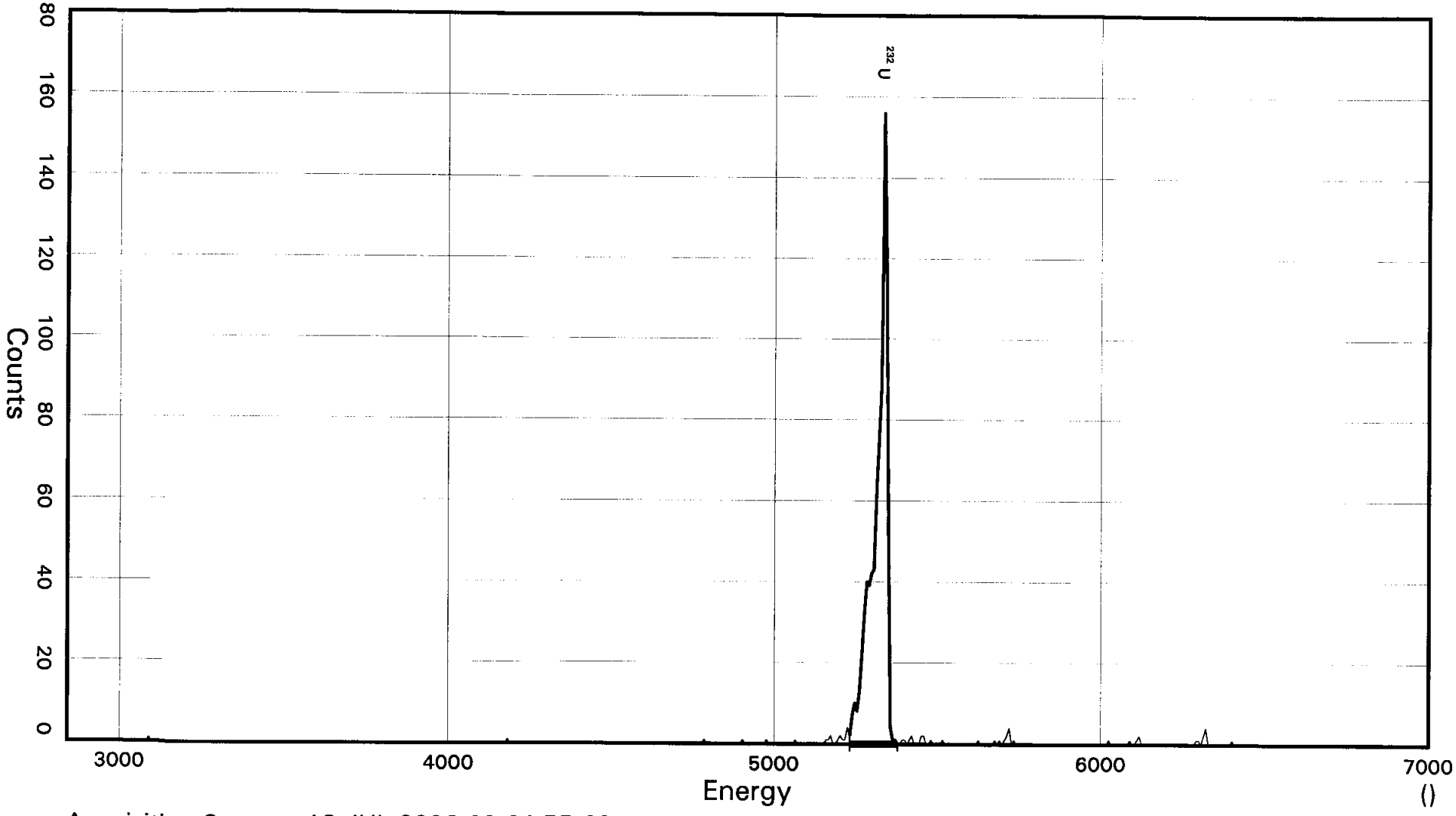
End of Report

STL Richland WA.

U BRC

Sample ID: H8M0K1AG
Detector ID: ALP8 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:04:55.69
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:01.00

Energy Coefficients:
Offset: 2.81875E+03
Slope: 7.34392E+00
Quadrature: -9.54142E-05

SAMPLE IDENTIITY: H8M0K1AG

TITLE : U BRC

DETECTOR : ALP8 1
CONFIGURATION NAME : $DISK1:[ALP8.SAMPLE]H8M0K1AG_180762204.CNF;1

ACQUIRE DATE of BACKGROUND: 07-JUL-2006 07:45:00

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:04:55 CALIB DATE : 06-JUL-2006 01:19:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:01

OFFSET : 2818.75 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 7.34392 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.954142E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0K1AG

Detector: ALP8 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:04:55.69
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	825	5	0	4.120	5330.3	145.6	330	350	0.00	0.00	P
U-234	1	0	0	0.005	4784.8	145.9	255	275	0.00	0.00	
U-235	0	1	0	-0.001	4408.0	138.8	204	223	0.00	0.00	
U-238	1	1	0	0.004	4208.2	146.2	176	196	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0K1AG
Detector: ALP8 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:04:55.69

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	1		352	0		402	2		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0		254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	2		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	1		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	2		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	1		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	1	+	269	0		319	1		369	0		419	0		469			
0		20	0		70	0		120	0		170	0	+	220	0	+	270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	1		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	2		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0	+	223	0	+	273	0		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0	+	274	0		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0	+	275	1		325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	2		326	0		376	0		426	1		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	1		327	0		377	0		427	1		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	1		328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	4		329	0		379	0		429	2		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	2	+	330	0		380	0		430	4		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	7	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	10	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	8	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	13	+	334	1		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	1		285	22	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	1	+	186	0		236	0		286	32	+	336	0		386	0		436	0		486			
1		37	0		87	0		137	0	+	187	0		237	0		287	40	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	39	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	42	+	339	0		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	43	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	62	+	341	1		391	0		441	1		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	75	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	88	+	343	1		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	156	+	344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	1		295	116	+	345	1		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	52	+	346	2		396	0		446	0		496			
0		47	0		97	0		147	0		197	0		247	0		297	4	+	347	4		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	1	+	348	0		398	1		448	0		498			
0		49	0		99	0		149	0		199	0		249	0		299	1	+	349	1		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:25:12

Configuration	: $DISK1:[ALP8.SAMPLE]H8M0K1AG_180762204.CNF;1		
Analyses by	: ALPHA V1.8		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:04:55
Sample ID	: H8M0K1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP8	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Start energy	: 2840.79	End energy	: 6553.83
Sensitivity	: 4.00	Sum Sensitivity	: 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.32	825	0	44.06	343.53	330	20	6.87E-02	3.5	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:25:13

Configuration	: $DISK1:[ALP8.SAMPLE]H8M0K1AG_180762204.CNF;1		
Analyses by	: ALPHA V1.8,PEAKEFF V2.2,NID V3.3		
Sample title	: U BRC		
Sample date	: 12-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 22:04:55
Sample ID	: H8M0K1AG	Sample quantity	: 0.00000E+00 SAMPLE
Sample type	: disk	Sample geometry	:
Detector name	: ALP8	Detector geometry	:
Elapsed live time	: 0 03:20:01.00	Elapsed real time	: 0 03:20:01.00 0.0%
Energy tolerance	: 40.00	Half life ratio	: 1.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Spline	Efficiencies at	: Peak Energy
Abundance limit	: 60.00		

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP8.SAMPLE]H8M0K1AG_180762204.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.32	330	350	825	813	0.42		

End of Report

SEVERN TRENT **STL**

URANIUM ISOTOPIC COUNTING REQUEST

7/19
0126

STL RICHLAND

C.R. Technician: OHP

Date Counted: 7/18/06

Counting Time
Sample: 200 Minutes
Background: See Alpha Regions Report
BRL 6/12

SOP's
Operating: RICHRD008
Review: RICHRD0016
6/19/211

WorkOrder #	U-232 (5320 KeV) Tracer	TOTAL COUNTS U-238 (4196 KeV)	U-235 (4396 KeV)	U-234 (4776 KeV)	Det #	Comments/Edits
H8M0Q1AG	See Counting Room Printout for ROI information				9	
H8M0V1AG	See Counting Room Printout for ROI information				10	
H8M05 1AG	See Counting Room Printout for ROI information				11	
H8M081AG	See Counting Room Printout for ROI information				12	
H8M1C1AG	See Counting Room Printout for ROI information				69	
H8M1E1AG	See Counting Room Printout for ROI information				71	
H8M1G1AG	See Counting Room Printout for ROI information				83	
H8WIL1AA	See Counting Room Printout for ROI information				84	
H8WIL1AA	See Counting Room Printout for ROI information				85	

Comments:

Form No: RC-011, 7/02, Rev 8

Approved by: S

Date: 7/19/06

309

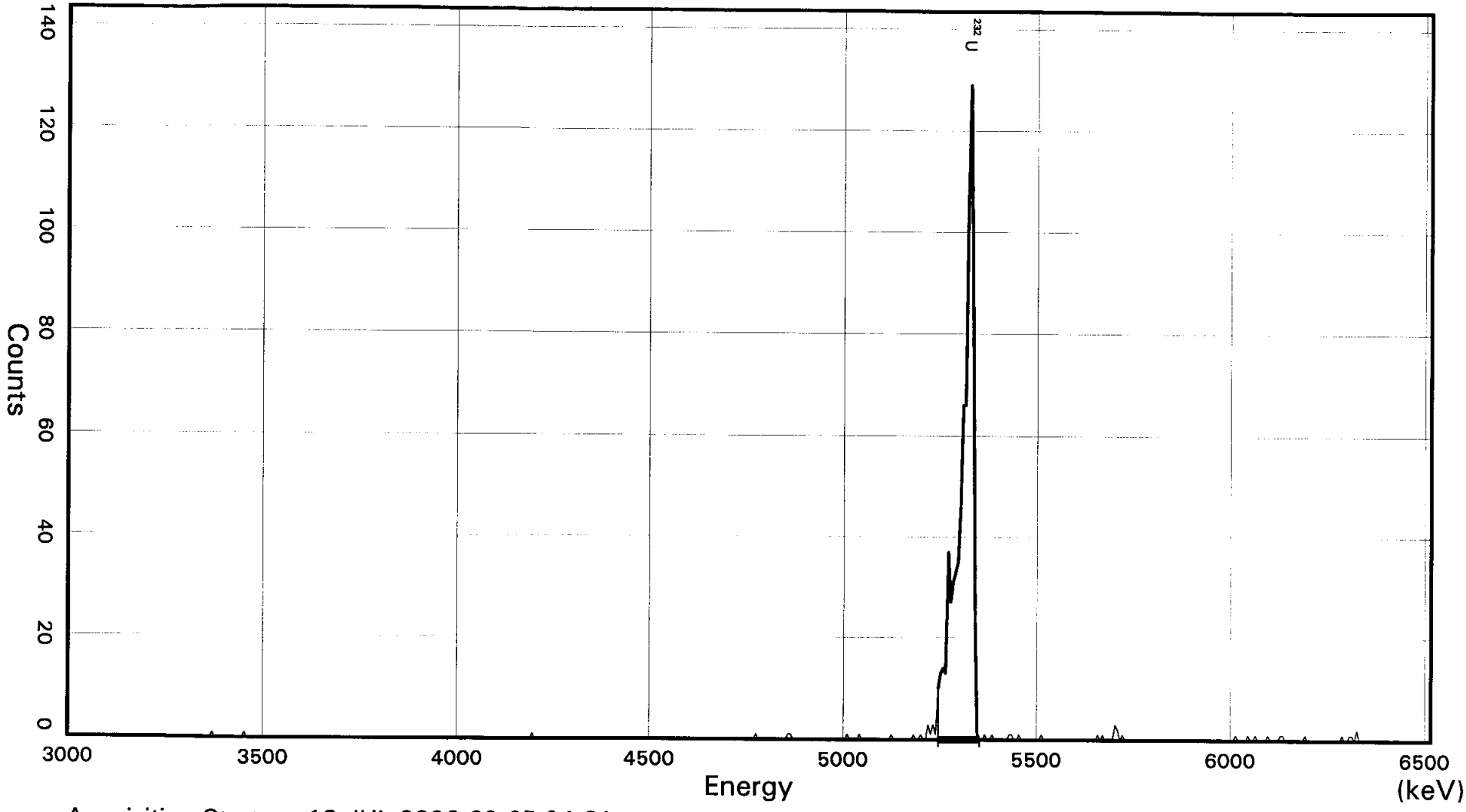
STL Richland WA.

U BRC

Sample ID: H8M0Q1AG

Detector ID: ALP9 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:05:04.31

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.26156E+03

Slope: 6.36004E+00

Quadrature: -7.79160E-06

SAMPLE IDENTIITY: H8M0Q1AG

TITLE : U BRC

DETECTOR : ALP9 1
CONFIGURATION NAME : $DISK1:[ALP9.SAMPLE]H8M0Q1AG_180762205.CNF;1

ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:23

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:05:04 CALIB DATE : 06-JUL-2006 01:19:57

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:06

OFFSET : 3261.56 keV CONSTANT FWHM : 5.83333 Channels
SLOPE : 6.36004 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.779160E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0Q1AG

Detector: ALP9 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:04.31
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	731	4	0	3.649	5324.8	108.0	312	329	0.00	0.00	P
U-234	1	1	0	0.004	4779.2	108.1	226	243	0.00	0.00	
U-235	0	0	0	0.000	4402.4	108.1	167	184	0.00	0.00	
U-238	1	2	0	0.003	4202.6	108.1	135	152	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0Q1AG
Detector: ALP9 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:04.31

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0		201	1		251	0		301	0		351	0		401	1		451	0		501
		2	0		52	0		102	0	+	152	0		202	1		252	1		302	0		352	0		402	1		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0		205	0		255	1		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0		206	0		256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0		207	0		257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0		208	0		258	3		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0		209	0		259	1		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0		210	0		260	3		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0		211	0		261	1		311	0		361	0		411	1		461	0		511
0		12	0		62	0		112	0		162	0		212	0		262	10	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0		213	0		263	13	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0		214	0		264	14	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0		265	13	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0		266	37	+	316	0		366	0		416	0		466			
1		17	0		67	0		117	0	+	167	0		217	0		267	27	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	31	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	33	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	35	+	320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	46	+	321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	66	+	322	0		372	0		422	0		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	66	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	108	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	1		275	129	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0	+	226	0		276	81	+	326	0		376	0		426	1		476			
0		27	0		77	0		127	0	+	177	0	+	227	0		277	23	+	327	1		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0	+	228	0		278	1	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0	+	229	0		279	0		329	1		379	0		429	1		479			
1		30	0		80	0		130	0	+	180	0	+	230	1		280	0		330	0		380	0		430	1		480			
0		31	0		81	0		131	0	+	181	0	+	231	0		281	1		331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0	+	232	0		282	0		332	0		382	0		432	2		482			
0		33	0		83	0		133	0	+	183	0	+	233	0		283	0		333	0		383	1		433	0		483			
0		34	0		84	0		134	0	+	184	0	+	234	0		284	1		334	3		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	0		335	2		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	0		287	0		337	1		387	0		437	0		487			
0		38	0		88	0	+	138	0		188	1	+	238	0		288	0		338	0		388	1		438	0		488			
0		39	0		89	0	+	139	0		189	0	+	239	0		289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0		190	0	+	240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0		191	0	+	241	0		291	1		341	0		391	1		441	0		491			
0		42	0		92	0	+	142	0		192	0	+	242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0	+	243	1		293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	0		296	0		346	0		396	1		446	0		496			
0		47	0		97	1	+	147	0		197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0	+	148	0		198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:25:26

```
Configuration     : $DISK1:[ALP9.SAMPLE]H8M0Q1AG_180762205.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:04
Sample ID         : H8M0Q1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Start energy      :  3280.64 keV         End energy       :  6515.86 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5324.81	731	0	25.44	324.54	312	17	6.09E-02	3.7	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:25:28

```
Configuration     : $DISK1:[ALP9.SAMPLE]H8M0Q1AG_180762205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:04
Sample ID         : H8M0Q1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP9                 Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

Total number of lines in spectrum	1	
Number of unidentified lines	0	
Number of lines tentatively identified by NID	1	100.00%

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP9.SAMPLE]H8M0Q1AG_180762205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5324.80	312	329	731	733	-0.07		

End of Report

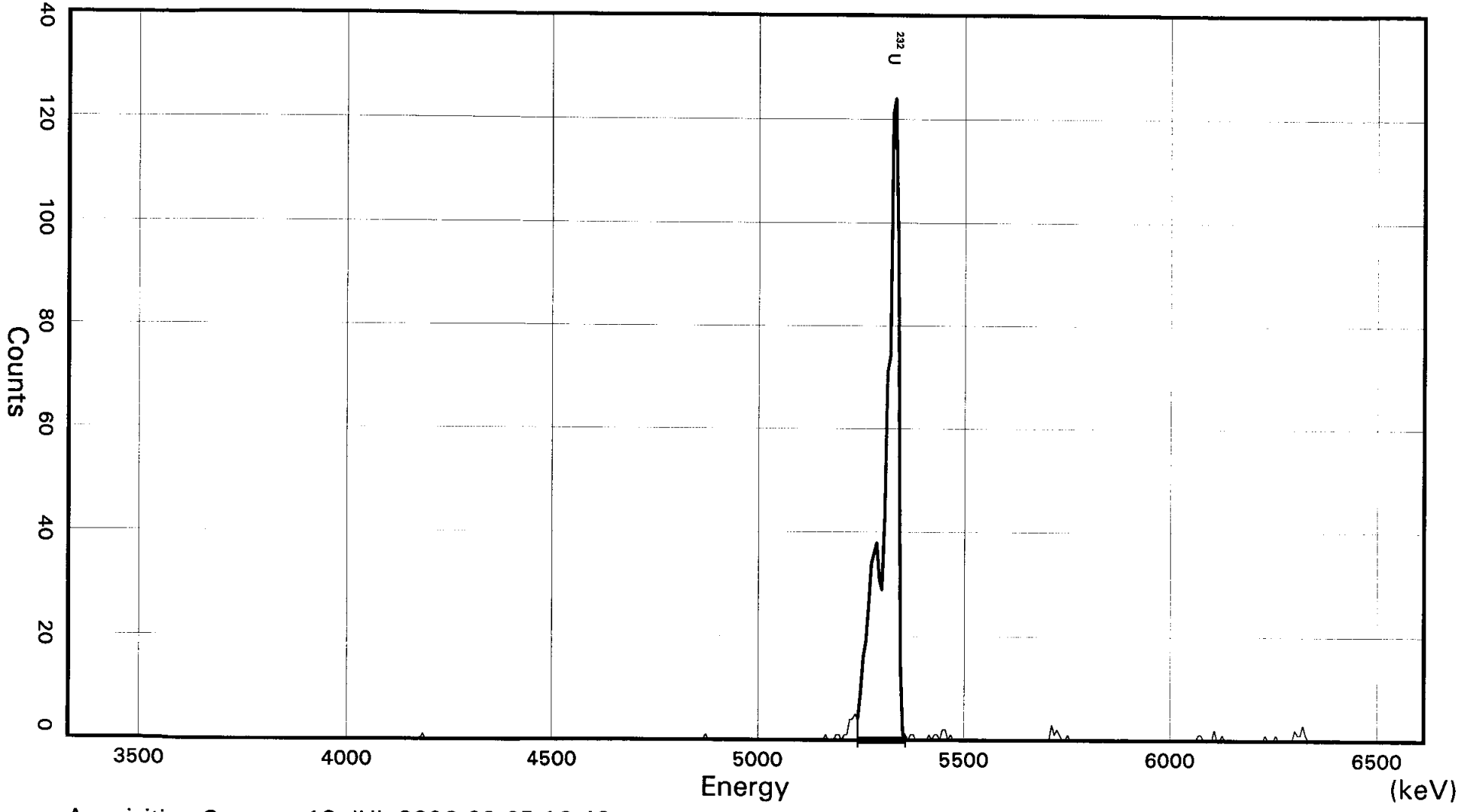
STL Richland WA.

U BRC

Sample ID: H8M0V1AG

Detector ID: ALP10 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:05:16.48

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.30961E+03

Slope: 6.42195E+00

Quadrature: 5.74933E-05

SAMPLE IDENTIITY: H8M0V1AG

TITLE : U BRC

DETECTOR : ALP10 1
CONFIGURATION NAME : $DISK1:[ALP10.SAMPLE]H8M0V1AG_180762205.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:25

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:05:16 CALIB DATE : 06-JUL-2006 01:19:51

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:06

OFFSET : 3309.61 keV CONSTANT FWHM : 7.00000 Channels
SLOPE : 6.42195 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 5.749330E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M0V1AG

Detector: ALP10 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:16.48
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	790	3	0	3.945	5326.0	116.2	300	318	0.00	0.00	P
U-234	0	1	0	-0.001	4780.4	116.1	215	233	0.00	0.00	
U-235	0	0	0	0.000	4403.6	115.9	157	175	0.00	0.00	
U-238	1	1	0	0.004	4203.8	115.9	126	144	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M0V1AG
Detector: ALP10 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:16.48

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	9	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	16	+	302	0		352	0		402	0		452	0		502
	0	3	0		53	0		103	0		153	0		203	0		253	19	+	303	0		353	0		403	1		453	0		503
	0	4	0		54	0		104	0		154	0		204	0		254	26	+	304	0		354	0		404	0		454	0		504
	0	5	0		55	0		105	0		155	0		205	0		255	34	+	305	0		355	0		405	0		455	0		505
	0	6	0		56	0		106	0		156	0		206	0		256	36	+	306	0		356	0		406	0		456	0		506
	0	7	0		57	0		107	0	+	157	0		207	0		257	38	+	307	0		357	0		407	1		457	0		507
	0	8	0		58	0		108	0	+	158	0		208	0		258	31	+	308	0		358	0		408	0		458	0		508
	0	9	0		59	0		109	0	+	159	0		209	0		259	29	+	309	0		359	0		409	0		459	0		509
	0	10	0		60	0		110	0	+	160	0		210	0		260	43	+	310	0		360	0		410	0		460	0		510
	0	11	0		61	0		111	0	+	161	0		211	0		261	71	+	311	0		361	0		411	0		461	0		511
	0	12	0		62	0		112	0	+	162	0		212	0		262	74	+	312	0		362	0		412	0		462	0		512
	0	13	0		63	0		113	0	+	163	0		213	0		263	121	+	313	0		363	0		413	0		463			
	0	14	0		64	0		114	0	+	164	0		214	0		264	124	+	314	0		364	0		414	2		464			
	0	15	0		65	0		115	0	+	165	0	+	215	0		265	90	+	315	0		365	0		415	1		465			
	0	16	0		66	0		116	0	+	166	0	+	216	0		266	15	+	316	0		366	0		416	1		466			
	0	17	0		67	0		117	0	+	167	0	+	217	0		267	1	+	317	0		367	0		417	3		467			
	0	18	0		68	0		118	0	+	168	0	+	218	0		268	1		318	0		368	0		418	1		468			
	0	19	0		69	0		119	0	+	169	0	+	219	0		269	0		319	0		369	0		419	0		469			
	0	20	0		70	0		120	0	+	170	0	+	220	0		270	1		320	0		370	0		420	0		470			
	0	21	0		71	0		121	0	+	171	0	+	221	0		271	1		321	0		371	0		421	0		471			
	0	22	0		72	0		122	0	+	172	0	+	222	0		272	0		322	0		372	0		422	0		472			
	0	23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	3		373	0		423	0		473			
	0	24	0		74	0		124	0	+	174	0	+	224	0		274	0		324	1		374	0		424	0		474			
	0	25	0		75	0		125	0	+	175	0	+	225	0		275	0		325	2		375	0		425	0		475			
	0	26	0		76	0	+	126	0		176	0	+	226	0		276	0		326	1		376	0		426	0		476			
	0	27	0		77	0	+	127	0		177	0	+	227	0		277	1		327	0		377	0		427	0		477			
	0	28	0		78	0	+	128	0		178	0	+	228	0		278	0		328	0		378	1		428	0		478			
	0	29	0		79	0	+	129	0		179	0	+	229	0		279	1		329	1		379	1		429	0		479			
	0	30	0		80	0	+	130	0		180	0	+	230	0		280	1		330	0		380	0		430	0		480			
	0	31	0		81	0	+	131	0		181	0	+	231	0		281	0		331	0		381	0		431	0		481			
	0	32	0		82	0	+	132	0		182	0	+	232	0		282	2		332	0		382	0		432	0		482			
	0	33	0		83	0	+	133	0		183	0	+	233	0		283	2		333	0		383	0		433	0		483			
	0	34	0		84	0	+	134	0		184	0		234	0		284	0		334	0		384	2		434	0		484			
	0	35	0		85	0	+	135	0		185	0		235	0		285	1		335	0		385	0		435	0		485			
	0	36	0		86	1	+	136	0		186	0		236	0		286	0		336	0		386	0		436	0		486			
	0	37	0		87	0	+	137	0		187	0		237	0		287	0		337	0		387	1		437	0		487			
	0	38	0		88	0	+	138	0		188	0		238	1		288	0		338	0		388	0		438	0		488			
	0	39	0		89	0	+	139	0		189	0		239	0		289	0		339	0		389	0		439	0		489			
	0	40	0		90	0	+	140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
	0	41	0		91	0	+	141	0		191	0		241	0		291	0		341	0		391	0		441	0		491			
	0	42	0		92	0	+	142	0		192	0		242	1		292	0		342	0		392	0		442	0		492			
	0	43	0		93	0	+	143	0		193	1		243	1		293	0		343	0		393	0		443	0		493			
	0	44	0		94	0	+	144	0		194	0		244	0		294	0		344	0		394	0		444	0		494			
	0	45	0		95	0		145	0		195	0		245	1		295	0		345	0		395	0		445	0		495			
	0	46	0		96	0		146	0		196	0		246	1		296	0		346	0		396	0		446	0		496			
	0	47	0		97	0		147	0		197	0		247	4		297	0		347	0		397	0		447	0		497			
	0	48	0		98	0		148	0		198	0		248	4		298	0		348	0		398	0		448	0		498			
	0	49	0		99	0		149	0		199	0		249	5		299	0		349	0		399	0		449	0		499			
	0	50	0		100	0		150	0		200	0		250	4	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:25:38

Configuration : $DISK1:[ALP10.SAMPLE]H8M0V1AG_180762205.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:16
Sample ID : H8M0V1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP10 Detector geometry:
Elapsed live time: 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy : 3328.88 keV End energy : 6612.72 keV
Sensitivity : 4.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.98	790	0	32.11	313.10	300	18	6.58E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:25:40

```
Configuration     : $DISK1:[ALP10.SAMPLE]H8M0V1AG_180762205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:16
Sample ID         : H8M0V1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP10                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP10.SAMPLE]H8M0V1AG_180762205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.98	300	318	790	782	0.28		

End of Report

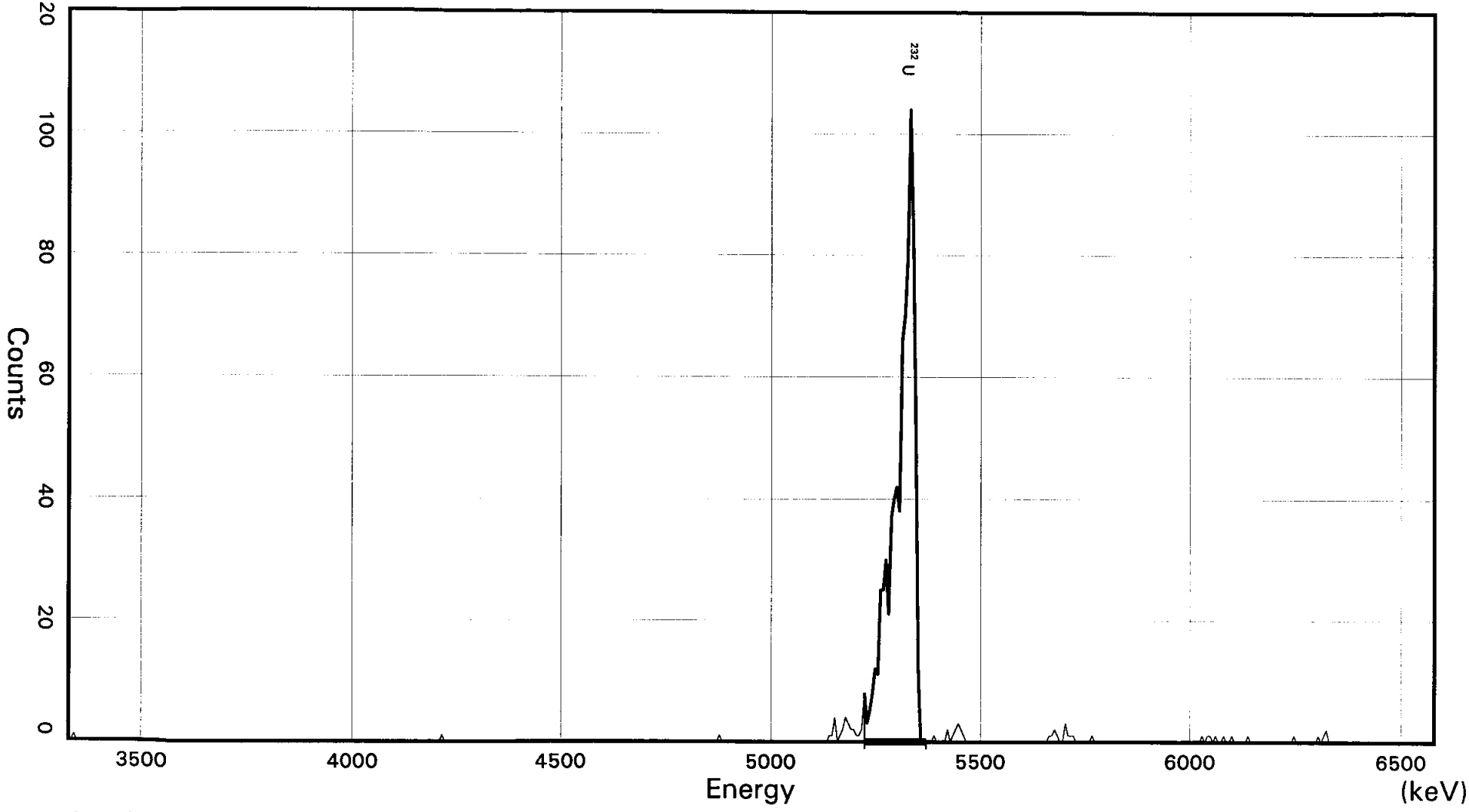
STL Richland WA.

U BRC

Sample ID: H8M051AG

Detector ID: ALP11 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:05:31.79

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:04.00

Energy Coefficients:

Offset: 3.30819E+03

Slope: 6.37367E+00

Quadrature: 2.86048E-05

SAMPLE IDENTIITY: H8M051AG

TITLE : U BRC

DETECTOR : ALP11 1
CONFIGURATION NAME : $DISK1:[ALP11.SAMPLE]H8M051AG_180762205.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:28

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:05:31 CALIB DATE : 06-JUL-2006 01:20:09

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:04

OFFSET : 3308.19 keV CONSTANT FWHM : 8.50000 Channels
SLOPE : 6.37367 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : 2.860480E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M051AG

Detector: ALP11 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:31.79
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	777	9	0	3.875	5325.7	147.0	300	323	0.00	0.00	P
U-234	0	0	0	0.000	4780.1	146.9	215	238	0.00	0.00	
U-235	0	1	0	-0.001	4403.3	146.8	156	179	0.00	0.00	
U-238	1	1	0	0.004	4203.5	146.8	124	147	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M051AG
Detector: ALP11 1
Report Date: 19-Jul-06 01:25 AM
Acquire Date: 18-JUL-2006 22:05:31.79

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	3	+	301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	5	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0		203	0		253	8	+	303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0		204	0		254	12	+	304	0		354	0		404	0		454	0		504
1		5	0		55	0		105	0		155	0		205	0		255	11	+	305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0		256	25	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0		257	25	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0		258	30	+	308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0		259	21	+	309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	37	+	310	0		360	0		410	1		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	40	+	311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	42	+	312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	38	+	313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	66	+	314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0	+	215	0		265	70	+	315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0	+	216	0		266	80	+	316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0	+	217	0		267	104	+	317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0	+	218	0		268	84	+	318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0	+	219	0		269	51	+	319	1		369	0		419	1		469			
0		20	0		70	0		120	0	+	170	0	+	220	0		270	12	+	320	1		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0	+	221	0		271	0	+	321	2		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0	+	222	0		272	0	+	322	1		372	0		422	2		472			
0		23	0		73	0		123	0	+	173	0	+	223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0	+	124	0	+	174	0	+	224	0		274	0		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0	+	175	0	+	225	0		275	0		325	3		375	0		425	0		475			
0		26	0		76	0	+	126	0	+	176	0	+	226	0		276	1		326	1		376	1		426	0		476			
0		27	0		77	0	+	127	0	+	177	0	+	227	0		277	0		327	1		377	0		427	0		477			
0		28	0		78	0	+	128	0	+	178	0	+	228	0		278	0		328	1		378	1		428	0		478			
0		29	0		79	0	+	129	0	+	179	0	+	229	0		279	0		329	0		379	1		429	0		479			
0		30	0		80	0	+	130	0		180	0	+	230	0		280	0		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0	+	231	0		281	2		331	0		381	1		431	0		481			
0		32	0		82	0	+	132	0		182	0	+	232	0		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0	+	233	0		283	1		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0	+	234	0		284	2		334	0		384	1		434	0		484			
0		35	0		85	0	+	135	0		185	0	+	235	0		285	3		335	1		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0	+	236	0		286	2		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0	+	237	1		287	1		337	0		387	1		437	0		487			
0		38	0		88	0	+	138	0		188	0	+	238	1		288	0		338	0		388	0		438	0		488			
0		39	0		89	0	+	139	0		189	0		239	4		289	0		339	0		389	0		439	0		489			
0		40	0		90	0	+	140	0		190	0		240	0		290	0		340	0		390	0		440	0		490			
0		41	0		91	0	+	141	0		191	0		241	1		291	0		341	0		391	0		441	0		491			
0		42	0		92	1	+	142	0		192	0		242	2		292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	4		293	0		343	0		393	1		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	3		294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	2		295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	1		246	2		296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	1		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	1		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	2		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	8	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:25:51

```
Configuration     : $DISK1:[ALP11.SAMPLE]H8M051AG_180762205.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:31
Sample ID         : H8M051AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Start energy      :  3327.31 keV         End energy       :  6579.00 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5325.69	777	0	44.62	316.09	300	23	6.47E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:25:52

```
Configuration     : $DISK1:[ALP11.SAMPLE]H8M051AG_180762205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:31
Sample ID         : H8M051AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP11                Detector geometry:
Elapsed live time: 0 03:20:04.00         Elapsed real time: 0 03:20:04.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP11.SAMPLE]H8M051AG_180762205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5325.69	300	323	777	772	0.18		

End of Report

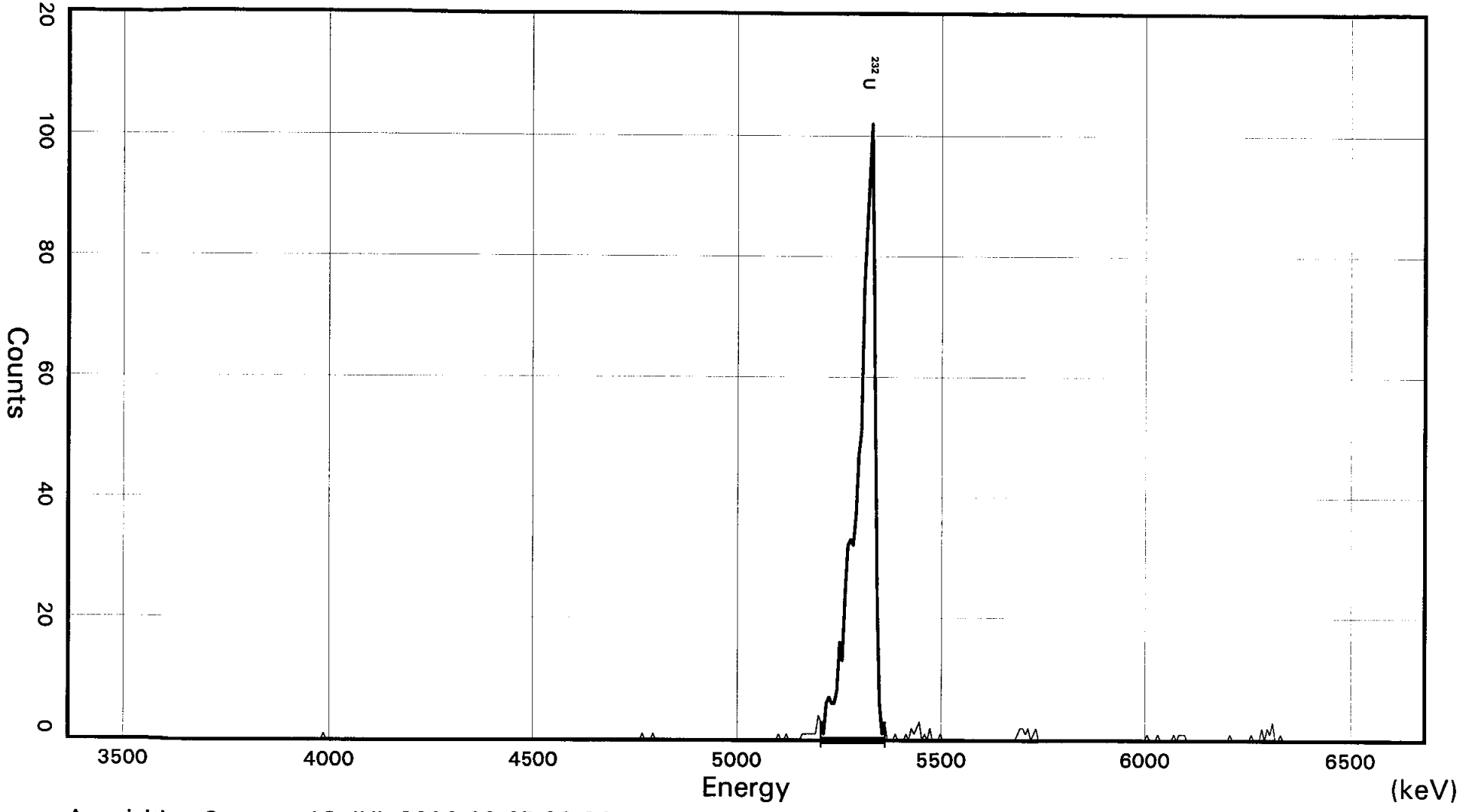
STL Richland WA.

U BRC

Sample ID: H8M081AG

Detector ID: ALP12 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:05:39.24

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:08.00

Energy Coefficients:

Offset: 3.34637E+03

Slope: 6.53599E+00

Quadrature: -4.70662E-05

SAMPLE IDENTIITY: H8M081AG

TITLE : U BRC

DETECTOR : ALP12 1
CONFIGURATION NAME : $DISK1:[ALP12.SAMPLE]H8M081AG_180762205.CNF;
1
ACQUIRE DATE of BACKGROUND: 06-JUL-2006 06:57:31

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:05:39 CALIB DATE : 06-JUL-2006 01:20:03

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:08

OFFSET : 3346.37 keV CONSTANT FWHM : 7.16667 Channels
SLOPE : 6.53599 keV/C SENSITIVITY : 4.00000 Std Dev's
QUAD COEFF : -.470662E-04 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M081AG

Detector: ALP12 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:05:39.24
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 1000 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	769	6	0	3.836	5319.7	156.2	285	309	0.00	0.00	P
U-234	2	0	0	0.010	4774.2	156.4	201	225	0.00	0.00	
U-235	0	0	0	0.000	4397.4	156.5	143	167	0.00	0.00	
U-238	0	1	0	-0.001	4197.6	156.6	113	137	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M081AG
Detector: ALP12 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:05:39.24

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0	+	201	0		251	75	+	301	0		351	0		401	2		451	0		501
		2	0		52	0		102	0	+	152	0	+	202	0		252	84	+	302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0	+	153	0	+	203	0		253	93	+	303	0		353	0		403	2		453	0		503
0		4	0		54	0		104	0	+	154	0	+	204	0		254	102	+	304	0		354	0		404	1		454	0		504
0		5	0		55	0		105	0	+	155	0	+	205	0		255	59	+	305	0		355	0		405	3		455	0		505
0		6	0		56	0		106	0	+	156	0	+	206	0		256	23	+	306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0	+	207	0		257	6	+	307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0	+	208	0		258	1	+	308	0		358	1		408	1		458	0		508
0		9	0		59	0		109	0	+	159	0	+	209	0		259	3		309	1		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0	+	210	0		260	0		310	2		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0	+	211	0		261	0		311	2		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0	+	212	0		262	0		312	1		362	1		412	0		462	0		512
0		13	0		63	0	+	113	0	+	163	0	+	213	0		263	1		313	2		363	0		413	0		463			
0		14	0		64	0	+	114	0	+	164	0	+	214	0		264	0		314	0		364	0		414	0		464			
0		15	0		65	0	+	115	0	+	165	0	+	215	0		265	0		315	1		365	0		415	0		465			
0		16	0		66	0	+	116	0	+	166	0	+	216	0		266	0		316	2		366	0		416	0		466			
0		17	0		67	0	+	117	0	+	167	0	+	217	0		267	1		317	0		367	0		417	0		467			
0		18	0		68	0	+	118	0		168	1	+	218	0		268	0		318	0		368	1		418	0		468			
0		19	0		69	0	+	119	0		169	0	+	219	1		269	2		319	0		369	0		419	0		469			
0		20	0		70	0	+	120	0		170	0	+	220	0		270	1		320	0		370	1		420	0		470			
0		21	0		71	0	+	121	0		171	0	+	221	0		271	2		321	0		371	1		421	0		471			
0		22	0		72	0	+	122	0		172	1	+	222	1		272	3		322	0		372	1		422	0		472			
0		23	0		73	0	+	123	0		173	0	+	223	0		273	0		323	0		373	0		423	0		473			
0		24	0		74	0	+	124	0		174	0	+	224	0		274	1		324	0		374	0		424	0		474			
0		25	0		75	0	+	125	0		175	0	+	225	0		275	0		325	0		375	0		425	0		475			
0		26	0		76	0	+	126	0		176	0		226	0		276	2		326	0		376	0		426	0		476			
0		27	0		77	0	+	127	0		177	0		227	0		277	0		327	0		377	0		427	0		477			
0		28	0		78	0	+	128	0		178	0		228	1		278	0		328	0		378	0		428	0		478			
0		29	0		79	0	+	129	0		179	0		229	1		279	0		329	0		379	0		429	0		479			
0		30	0		80	0	+	130	0		180	0		230	1		280	1		330	0		380	0		430	0		480			
0		31	0		81	0	+	131	0		181	0		231	1		281	0		331	0		381	0		431	0		481			
0		32	0		82	0	+	132	0		182	0		232	1		282	0		332	0		382	0		432	0		482			
0		33	0		83	0	+	133	0		183	0		233	1		283	0		333	0		383	0		433	0		483			
0		34	0		84	0	+	134	0		184	0		234	4		284	0		334	0		384	0		434	0		484			
0		35	0		85	0	+	135	0		185	0		235	3	+	285	0		335	0		385	0		435	0		485			
0		36	0		86	0	+	136	0		186	0		236	1	+	286	0		336	0		386	0		436	0		486			
0		37	0		87	0	+	137	0		187	0		237	6	+	287	0		337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	7	+	288	0		338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	6	+	289	0		339	0		389	1		439	0		489			
0		40	0		90	0		140	0		190	0		240	6	+	290	0		340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	8	+	291	0		341	0		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	16	+	292	0		342	0		392	0		442	0		492			
0		43	0		93	0	+	143	0		193	0		243	13	+	293	0		343	0		393	0		443	0		493			
0		44	0		94	0	+	144	0		194	0		244	24	+	294	0		344	0		394	0		444	0		494			
0		45	0		95	0	+	145	0		195	0		245	32	+	295	0		345	0		395	0		445	0		495			
0		46	0		96	0	+	146	0		196	0		246	33	+	296	0		346	0		396	0		446	0		496			
0		47	0		97	0	+	147	0		197	0		247	32	+	297	0		347	0		397	1		447	0		497			
0		48	1		98	0	+	148	0		198	0		248	37	+	298	0		348	0		398	0		448	0		498			
0		49	0		99	0	+	149	0		199	0		249	47	+	299	0		349	0		399	0		449	0		499			
0		50	0		100	0	+	150	0		200	0		250	51	+	300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:26:02

```
Configuration     : $DISK1:[ALP12.SAMPLE]H8M081AG_180762205.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:39
Sample ID         : H8M081AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                Detector geometry:
Elapsed live time: 0 03:20:08.00         Elapsed real time: 0 03:20:08.00   0.0%
Start energy      :  3365.98 keV         End energy       :  6680.46 keV
Sensitivity       :     4.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5319.72	769	0	39.22	302.58	285	24	6.40E-02	3.6	

VMS Nuclide Identification Report V3.0 Generated 19-JUL-2006 01:26:03

```
Configuration     : $DISK1:[ALP12.SAMPLE]H8M081AG_180762205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.3
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:39
Sample ID         : H8M081AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP12                Detector geometry:
Elapsed live time: 0 03:20:08.00         Elapsed real time: 0 03:20:08.00   0.0%
Energy tolerance :    40.00 keV          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: $DISK1:[ALP12.SAMPLE]H8M081AG_180762205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5319.72	285	309	769	768	0.04		

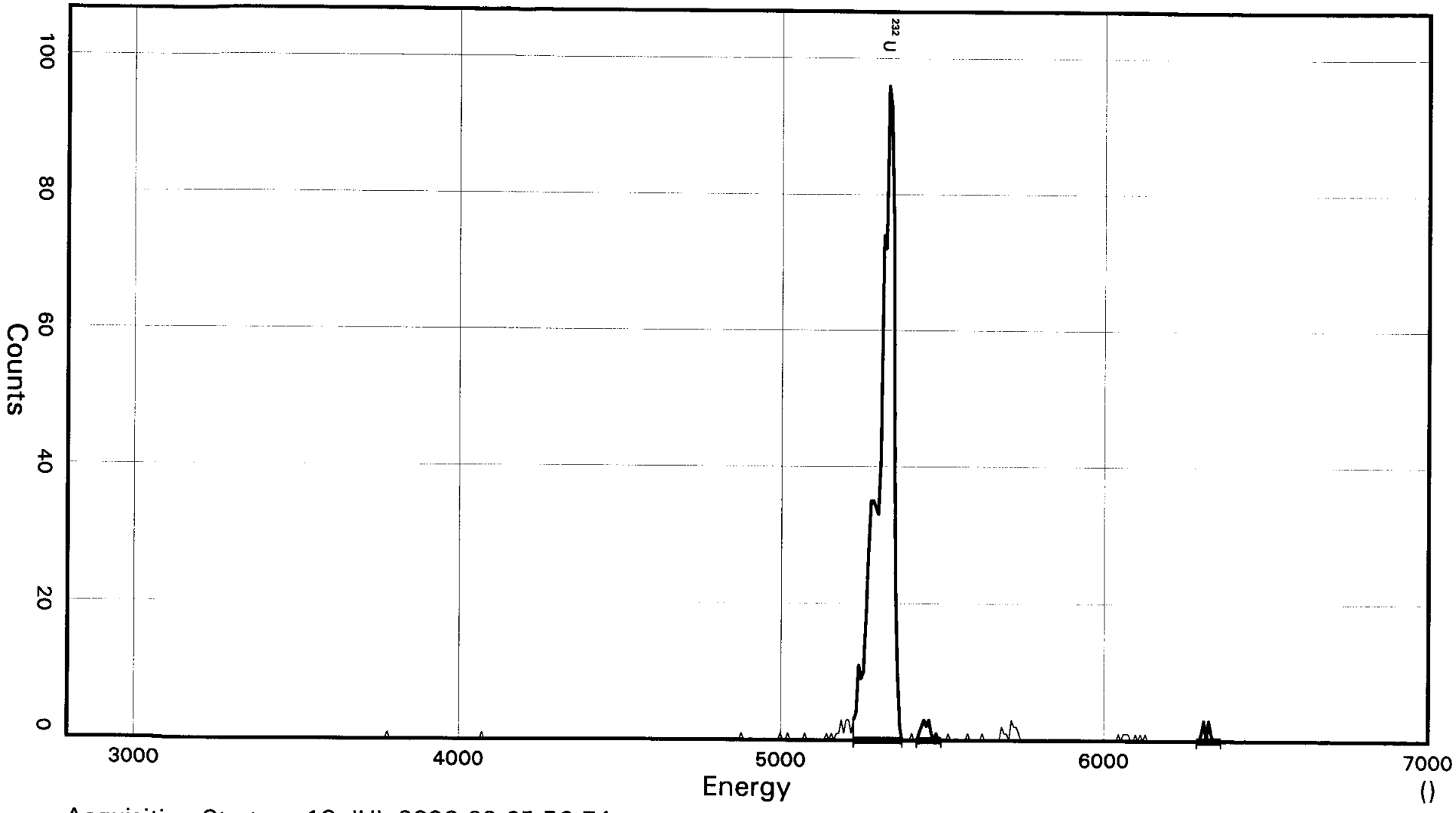
End of Report

STL Richland WA.

U BRC

Sample ID: H8M1C1AG
Detector ID: ALP69 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:05:56.74
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:03.00

Energy Coefficients:
Offset: 2.77160E+03
Slope: 7.51707E+00
Quadrature: 1.81482E-05

SAMPLE IDENTIITY: H8M1C1AG

TITLE : U BRC

DETECTOR : ALP69 1
CONFIGURATION NAME : RDND06$DKA100:[ALP69.SAMPLE]H8M1C1AG_180762205.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:12:59

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:05:56 CALIB DATE : 12-JUN-2006 06:25:06

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:03

OFFSET : 2771.60 keV CONSTANT FWHM : 7.50000 Channels
SLOPE : 7.51707 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 1.814820E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1C1AG

Detector: ALP69 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:05:56.74
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	705	26	0	3.514	5327.2	150.6	326	346	0.00	0.00	P
U-234	0	5	0	-0.002	4781.7	150.5	254	274	0.00	0.00	
U-235	0	3	0	-0.001	4404.9	150.5	203	223	0.00	0.00	
U-238	0	7	0	-0.003	4205.1	150.5	177	197	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1C1AG
Detector: ALP69 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:05:56.74

Flags Key
Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0		201	0		251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0		202	0		252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0		253	0		303	1		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	2		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	3		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	1		306	2		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	3		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	1		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	1		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0	+	215	0	+	265	1		315	1		365	0		415	0		465			
0		16	0		66	0		116	0		166	0	+	216	0	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0	+	217	0	+	267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0	+	218	0	+	268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0		169	0	+	219	0	+	269	1		319	0		369	0		419	1		469			
0		20	0		70	0		120	0		170	0	+	220	0	+	270	1		320	0		370	0		420	3		470			
0		21	0		71	0		121	0		171	0	+	221	0	+	271	3		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0	+	222	0	+	272	1		322	0		372	0		422	3		472			
0		23	0		73	0		123	1		173	0	+	223	0	+	273	3		323	1		373	0		423	1		473			
0		24	0		74	0		124	0		174	0		224	0	+	274	3		324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	0		225	0		275	1		325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	3	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	4	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	11	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	9	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	1		280	10	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	18	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	28	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	35	+	333	0		383	0		433	0		483			
0		34	0		84	1		134	0	+	184	0		234	0		284	35	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	34	+	335	0		385	1		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	33	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	41	+	337	2		387	1		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	74	+	338	1		388	1		438	0		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	72	+	339	1		389	1		439	0		489			
0		40	0		90	0		140	0	+	190	0		240	0		290	96	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	93	+	341	3		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	75	+	342	2		392	1		442	0		492			
0		43	0		93	0		143	0	+	193	0		243	0		293	23	+	343	2		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0		244	0		294	10	+	344	1		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	2	+	345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	1		296	0		346	0		396	1		446	0		496			
0		47	0		97	0		147	0	+	197	0		247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0		198	0		248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0		199	0		249	1		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0		200	0		250	0		300	1		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:26:15

Configuration : RDND06$DKA100:[ALP69.SAMPLE]H8M1C1AG_180762205.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:56
Sample ID : H8M1C1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP69 Detector geometry:
Elapsed live time: 0 03:20:03.00 Elapsed real time: 0 03:20:03.00 0.0%
Start energy : 2794.15 End energy : 6625.10
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5327.24	705	0	45.10	339.70	326	20	5.87E-02	3.8	
2	0	5446.21	13	0	30.07	355.50	352	10	1.08E-03	27.7	
3	0	6311.46	10	0	37.59	470.38	467	10	8.33E-04	31.6	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 01:26:17

```
Configuration     : RDND06$DKA100:[ALP69.SAMPLE]H8M1C1AG_180762205.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:05:56
Sample ID         : H8M1C1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP69                Detector geometry:
Elapsed live time: 0 03:20:03.00         Elapsed real time: 0 03:20:03.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                3
 Number of unidentified lines                     2
 Number of lines tentatively identified by NID    1       33.33%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			
Grand Total Activity :			0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP69.SAMPLE]H8M1C1AG_180762205.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5327.24	326	346	705	706	-0.04		
5446.21	352	362	13	13	0.00		
6311.45	467	477	10	8	0.63		

End of Report

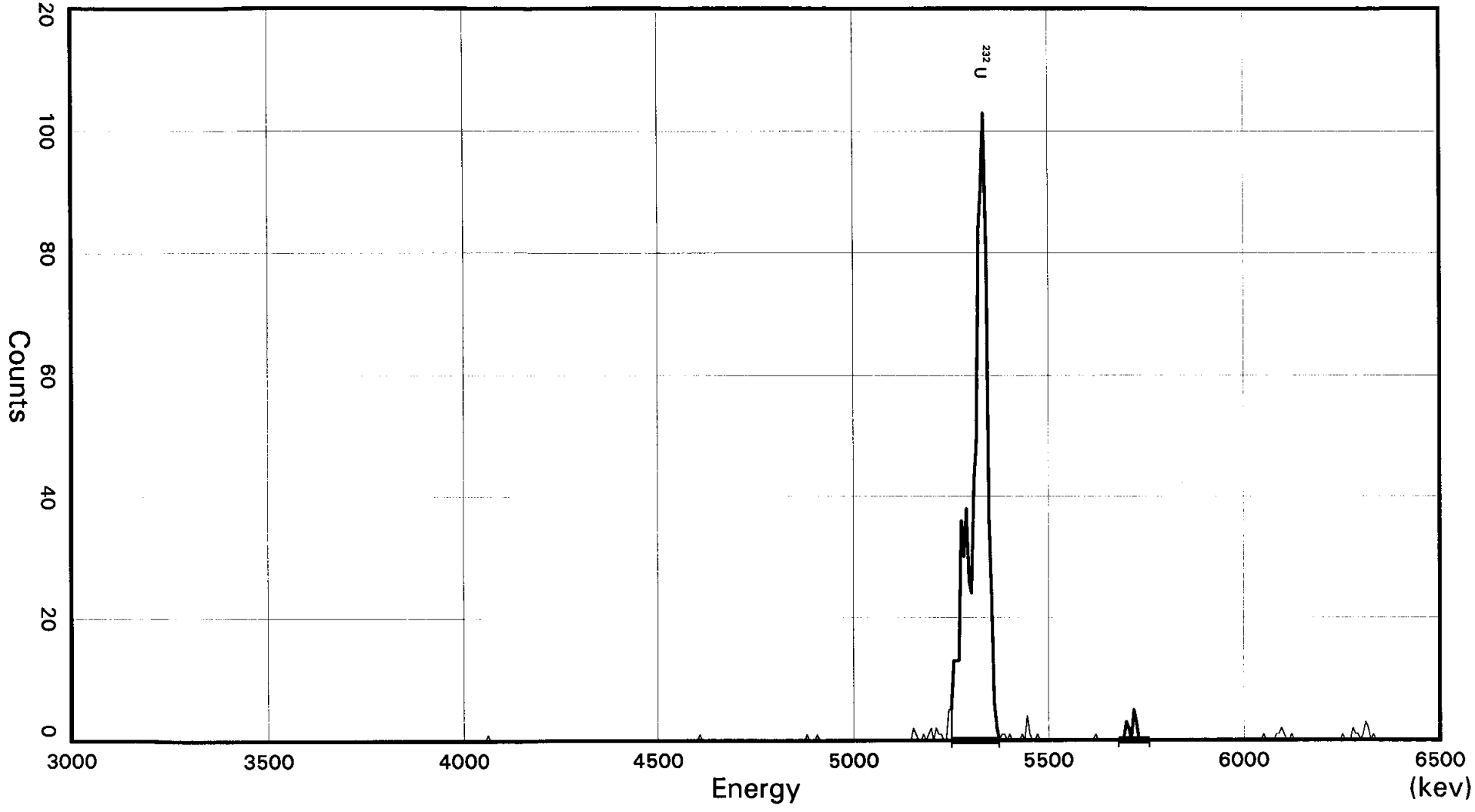
STL Richland WA.

U BRC

Sample ID: H8M1E1AG

Detector ID: ALP71 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:06:09.47

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 3.14844E+03

Slope: 6.47574E+00

Quadrature: 3.38252E-05

SAMPLE IDENTIITY: H8M1E1AG

TITLE : U BRC

DETECTOR : ALP71 1
CONFIGURATION NAME : RDND06$DKA100:[ALP71.SAMPLE]H8M1E1AG_180762206.CNF;1
ACQUIRE DATE of BACKGROUND: 12-JUN-2006 08:13:05

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:06:09 CALIB DATE : 12-JUN-2006 06:25:11

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:06

OFFSET : 3148.44 keV CONSTANT FWHM : 8.66667 Channels
SLOPE : 6.47574 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 3.382520E-05 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1E1AG

Detector: ALP71 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:09.47
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	718	28	0	3.577	5330.9	123.5	324	343	0.00	0.00	P
U-234	0	3	0	-0.001	4785.3	123.4	240	259	0.00	0.00	
U-235	0	3	0	-0.001	4408.5	123.3	182	201	0.00	0.00	
U-238	0	4	0	-0.002	4208.7	123.2	151	170	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1E1AG
Detector: ALP71 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:09.47

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0	+	151	0	+	201	0	+	251	0		301	0		351	0		401	0		451	0		501
		2	0		52	0		102	0	+	152	0		202	0	+	252	0		302	1		352	0		402	1		452	0		502
0		3	0		53	0		103	0	+	153	0		203	0	+	253	0		303	0		353	0		403	1		453	0		503
0		4	0		54	0		104	0	+	154	0		204	0	+	254	0		304	4		354	0		404	2		454	0		504
0		5	0		55	0		105	0	+	155	0		205	0	+	255	0		305	1		355	0		405	1		455	0		505
0		6	0		56	0		106	0	+	156	0		206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0	+	157	0		207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0	+	158	0		208	0	+	258	0		308	1		358	0		408	1		458	0		508
0		9	0		59	0		109	0	+	159	0		209	0	+	259	2		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0	+	160	0		210	0		260	1		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0	+	161	0		211	0		261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0	+	162	0		212	0		262	0		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0	+	163	0		213	0		263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0		264	0		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0		265	1		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	2		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	1		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	2		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	1		319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	1		320	0		370	0		420	0		470			
0		21	0		71	0		121	0		171	0		221	1		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0		172	0		222	0		272	0		322	0		372	0		422	0		472			
0		23	0		73	0		123	0		173	0		223	0		273	5		323	0		373	0		423	0		473			
0		24	0		74	0		124	0		174	0		224	0		274	5	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0		175	1		225	0		275	13	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0		176	0		226	0		276	13	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0		177	0		227	0		277	13	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0		178	0		228	0		278	36	+	328	0		378	0		428	1		478			
0		29	0		79	0		129	0		179	0		229	0		279	30	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0		180	0		230	0		280	38	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0		181	0		231	0		281	26	+	331	1		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	24	+	332	0		382	0		432	2		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	42	+	333	0		383	0		433	1		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	49	+	334	0		384	0		434	1		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	84	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	91	+	336	0		386	0		436	1		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	103	+	337	0		387	0		437	3		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	81	+	338	0		388	0		438	2		488			
0		39	0		89	0		139	0	+	189	0		239	0		289	36	+	339	0		389	0		439	0		489			
0		40	0		90	0		140	0	+	190	0	+	240	0		290	23	+	340	0		390	0		440	1		490			
0		41	0		91	1		141	0	+	191	0	+	241	0		291	6	+	341	0		391	0		441	0		491			
0		42	0		92	0		142	0	+	192	0	+	242	0		292	2	+	342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	0		343	3		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	1		344	2		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	1		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	5		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	1		347	3		397	1		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:26:31

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H8M1E1AG_180762206.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:09
Sample ID         : H8M1E1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Start energy      :  3167.87 kev         End energy       :  6472.89 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5330.91	718	0	38.85	336.43	324	19	5.98E-02	3.7	
2	0	5714.52	14	0	25.90	395.44	390	12	1.17E-03	26.7	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 01:26:32

```
Configuration     : RDND06$DKA100:[ALP71.SAMPLE]H8M1E1AG_180762206.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:09
Sample ID         : H8M1E1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP71                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    60.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    1       50.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			
	Grand Total Activity :		0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP71.SAMPLE]H8M1E1AG_180762206.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5330.90	324	343	718	715	0.11		
5714.52	390	402	14	13	0.27		

End of Report

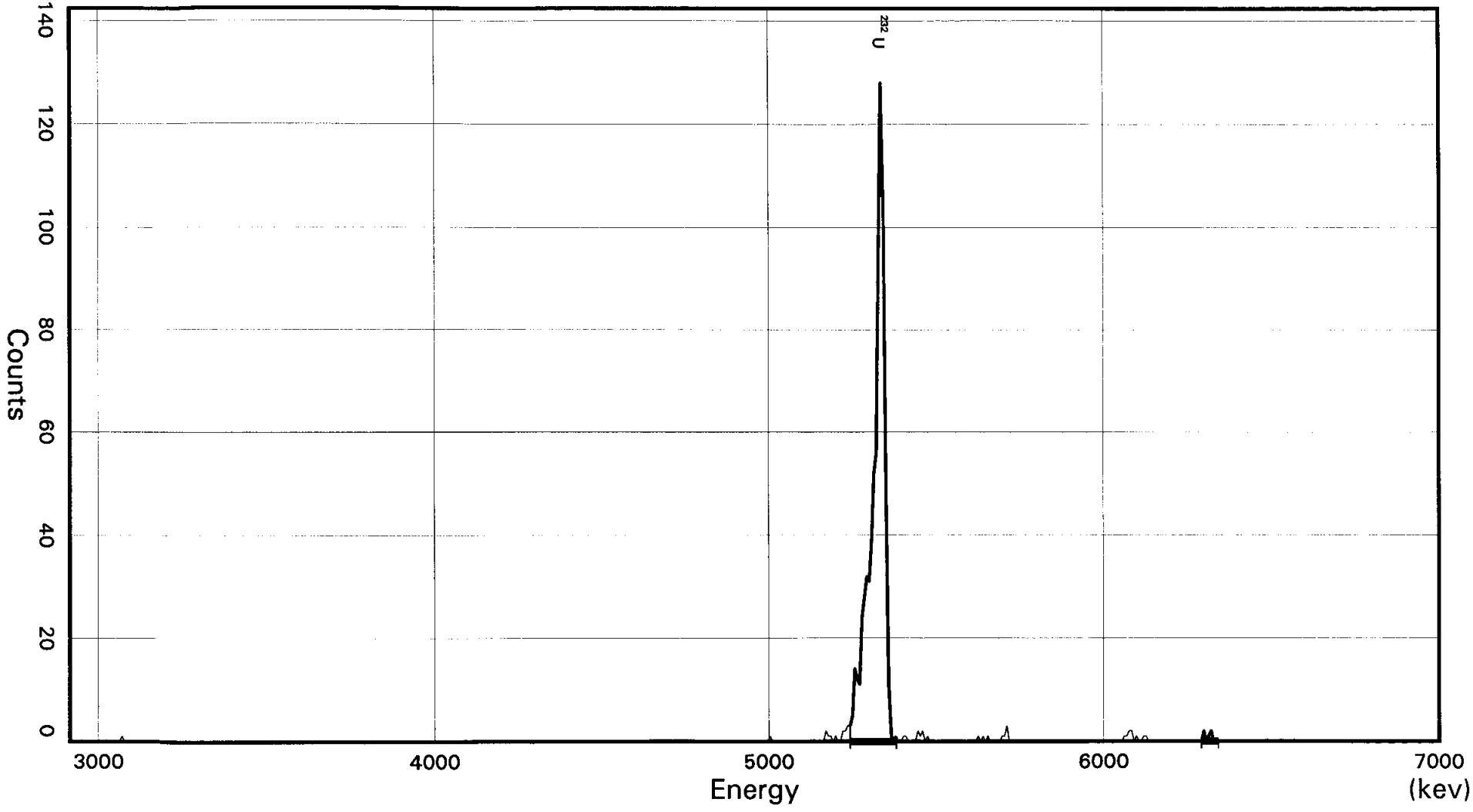
STL Richland WA.

U BRC

Sample ID: H8M1G1AG

Detector ID: ALP83 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:06:26.51

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:06.00

Energy Coefficients:

Offset: 2.89305E+03

Slope: 7.36477E+00

Quadrature: -2.22552E-04

SAMPLE IDENTIITY: H8M1G1AG

TITLE : U BRC

DETECTOR : ALP83 1
CONFIGURATION NAME : RDND06$DKA100:[ALP83.SAMPLE]H8M1G1AG_180762206.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:07

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:06:26 CALIB DATE : 09-JUN-2006 06:21:49

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:06

OFFSET : 2893.05 keV CONSTANT FWHM : 9.00000 Channels
SLOPE : 7.36477 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.222552E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8M1G1AG

Detector: ALP83 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:26.51
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	708	20	0	3.530	5332.1	137.1	322	341	0.00	0.00	P
U-234	0	5	0	-0.002	4786.5	137.8	247	266	0.00	0.00	
U-235	0	2	0	-0.001	4409.7	138.2	195	214	0.00	0.00	
U-238	0	4	0	-0.002	4209.9	138.4	167	186	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8M1G1AG
Detector: ALP83 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:26.51

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	1		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	1		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	2		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0		164	0	+	214	0	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0		165	0		215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0		166	0		216	0	+	266	1		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	0		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	0		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	2		319	0		369	0		419	2		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	2		320	0		370	0		420	0		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	3		321	0		371	0		421	1		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	3	+	322	0		372	0		422	2		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	5	+	323	0		373	0		423	0		473			
1		24	0		74	0		124	0	+	174	0		224	0		274	14	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	12	+	325	1		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	11	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	24	+	327	1		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	28	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	32	+	329	1		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	31	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	39	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	52	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	56	+	333	0		383	0		433	0		483			
0		34	0		84	0		134	0	+	184	0		234	0		284	99	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	128	+	335	1		385	0		435	0		485			
0		36	0		86	0		136	0	+	186	0		236	0		286	104	+	336	1		386	1		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	49	+	337	3		387	1		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	11	+	338	0		388	2		438	0		488			
0		39	0		89	0		139	0		189	0		239	1		289	1	+	339	0		389	2		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	1		341	0		391	1		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	0		342	0		392	0		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	1		344	0		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	1		345	0		395	1		445	0		495			
0		46	0		96	0		146	0	+	196	0		246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	0		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	0		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	2		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:26:35

Configuration : RDND06$DKA100:[ALP83.SAMPLE]H8M1G1AG_180762206.CNF;1
Analyses by : ALPHA V1.8
Sample title : U BRC
Sample date : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:26
Sample ID : H8M1G1AG Sample quantity : 0.00000E+00 SAMPLE
Sample type : disk Sample geometry :
Detector name : ALP83 Detector geometry:
Elapsed live time: 0 03:20:06.00 Elapsed real time: 0 03:20:06.00 0.0%
Start energy : 2915.14 kev End energy : 6605.47 kev
Sensitivity : 3.00 Sum Sensitivity : 1.00

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5332.08	708	0	44.19	334.56	322	19	5.90E-02	3.8	
2	0	6308.90	4	0	29.46	470.50	468	7	3.33E-04	50.0	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 01:26:36

```
Configuration     : RDND06$DKA100:[ALP83.SAMPLE]H8M1G1AG_180762206.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:26
Sample ID         : H8M1G1AG             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP83                Detector geometry:
Elapsed live time: 0 03:20:06.00         Elapsed real time: 0 03:20:06.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                2
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    1       50.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
		Total Activity :	0.000E+00	0.000E+00			
		Grand Total Activity :	0.000E+00	0.000E+00			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP83.SAMPLE]H8M1G1AG_180762206.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5332.07	322	341	708	700	0.30		
6308.90	468	475	4	5	-0.50		

End of Report

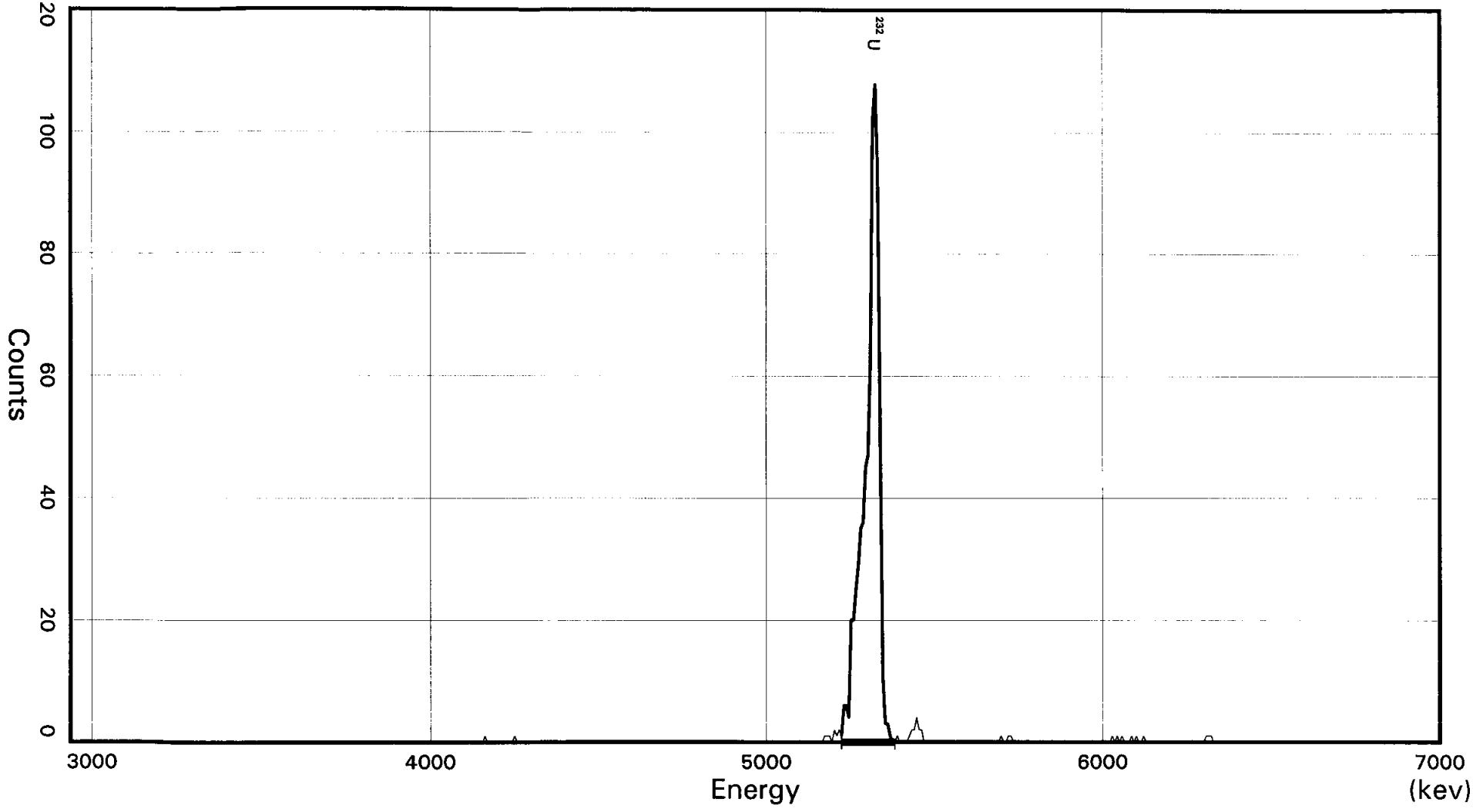
STL Richland WA.

U BRC

Sample ID: H8W1L1AA

Detector ID: ALP84 1

Batch ID: 6191211



Acquisition Start: 18-JUL-2006 22:06:40.77

Preset Live Time: 0 03:20:00.00

Elapsed Live Time: 0 03:20:07.00

Energy Coefficients:

Offset: 2.91475E+03

Slope: 7.27474E+00

Quadrature: -1.17694E-04

SAMPLE IDENTIITY: H8W1L1AA

TITLE : U BRC

DETECTOR : ALP84 1
CONFIGURATION NAME : RDND06$DKA100:[ALP84.SAMPLE]H8W1L1AA_180762206.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:10

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:06:40 CALIB DATE : 09-JUN-2006 06:21:40

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:07

OFFSET : 2914.75 keV CONSTANT FWHM : 5.00000 Channels
SLOPE : 7.27474 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : -.117694E-03 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8W1L1AA

Detector: ALP84 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:40.77
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	709	25	0	3.533	5321.4	158.3	319	341	0.00	0.00	P
U-234	0	3	0	-0.001	4775.8	158.7	243	265	0.00	0.00	
U-235	0	2	0	-0.001	4399.0	159.0	191	213	0.00	0.00	
U-238	2	0	0	0.010	4199.2	151.9	164	185	0.00	0.00	

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8W1L1AA
Detector: ALP84 1
Report Date: 19-Jul-06 01:26 AM
Acquire Date: 18-JUL-2006 22:06:40.77

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	0	+	251	0		301	2		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	0	+	252	0		302	2		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	0	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	0	+	204	0	+	254	0		304	0		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	0	+	255	0		305	0		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	0	+	256	0		306	0		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	0	+	257	0		307	0		357	0		407	0		457	0		507
0		8	0		58	0		108	0		158	0	+	208	0	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	0		159	0	+	209	0	+	259	0		309	0		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	0	+	210	0	+	260	0		310	0		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	0	+	261	0		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	0	+	262	1		312	0		362	0		412	0		462	0		512
0		13	0		63	0		113	0		163	0	+	213	0	+	263	1		313	0		363	0		413	0		463			
0		14	0		64	0		114	0	+	164	0		214	0	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	0	+	165	0		215	0	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	0	+	166	0		216	0		266	2		316	0		366	0		416	0		466			
0		17	0		67	0		117	0	+	167	0		217	0		267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0	+	168	0		218	0		268	2		318	0		368	0		418	0		468			
0		19	0		69	0		119	0	+	169	0		219	0		269	1	+	319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	6	+	320	0		370	0		420	1		470			
0		21	0		71	0		121	0	+	171	0		221	0		271	6	+	321	0		371	0		421	1		471			
0		22	0		72	0		122	1	+	172	0		222	0		272	4	+	322	0		372	0		422	1		472			
0		23	0		73	0		123	0	+	173	0		223	0		273	20	+	323	0		373	0		423	0		473			
0		24	0		74	0		124	0	+	174	0		224	0		274	20	+	324	0		374	0		424	0		474			
0		25	0		75	0		125	0	+	175	0		225	0		275	25	+	325	0		375	0		425	0		475			
0		26	0		76	0		126	0	+	176	0		226	0		276	29	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	0	+	177	0		227	0		277	35	+	327	0		377	0		427	0		477			
0		28	0		78	0		128	0	+	178	0		228	0		278	36	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	0	+	179	0		229	0		279	45	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	0	+	180	0		230	0		280	47	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	0	+	181	0		231	0		281	62	+	331	0		381	1		431	0		481			
0		32	0		82	0		132	0	+	182	0		232	0		282	102	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	0	+	183	0		233	0		283	108	+	333	0		383	1		433	0		483			
0		34	0		84	0		134	1	+	184	0		234	0		284	94	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	0	+	185	0		235	0		285	50	+	335	1		385	1		435	0		485			
0		36	0		86	0		136	0		186	0		236	0		286	11	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0		187	0		237	0		287	3	+	337	0		387	0		437	0		487			
0		38	0		88	0		138	0		188	0		238	0		288	3	+	338	1		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	1	+	339	1		389	1		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	0	+	340	0		390	0		440	0		490			
0		41	0		91	0		141	0	+	191	0		241	0		291	0		341	0		391	1		441	0		491			
0		42	0		92	0		142	0	+	192	0		242	0		292	1		342	0		392	0		442	0		492			
0		43	0		93	0		143	0	+	193	0	+	243	0		293	0		343	0		393	0		443	0		493			
0		44	0		94	0		144	0	+	194	0	+	244	0		294	0		344	0		394	1		444	0		494			
0		45	0		95	0		145	0	+	195	0	+	245	0		295	0		345	0		395	0		445	0		495			
0		46	0		96	0		146	0	+	196	0	+	246	0		296	0		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	0	+	247	0		297	1		347	0		397	0		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	2		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	0	+	250	0		300	4		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:26:47

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H8W1L1AA_180762206.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:40
Sample ID         : H8W1L1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   0.0%
Start energy      :  2936.57 kev         End energy       :  6608.56 kev
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	5321.37	709	0	29.10	332.61	319	22	5.90E-02	3.8	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 01:26:49

```
Configuration     : RDND06$DKA100:[ALP84.SAMPLE]H8W1L1AA_180762206.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:40
Sample ID         : H8W1L1AA             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP84                Detector geometry:
Elapsed live time: 0 03:20:07.00         Elapsed real time: 0 03:20:07.00   0.0%
Energy tolerance :    80.00 kev          Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                1
 Number of unidentified lines                     0
 Number of lines tentatively identified by NID    1      100.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
	Total Activity :		0.000E+00	0.000E+00			
	Grand Total Activity :		0.000E+00	0.000E+00			

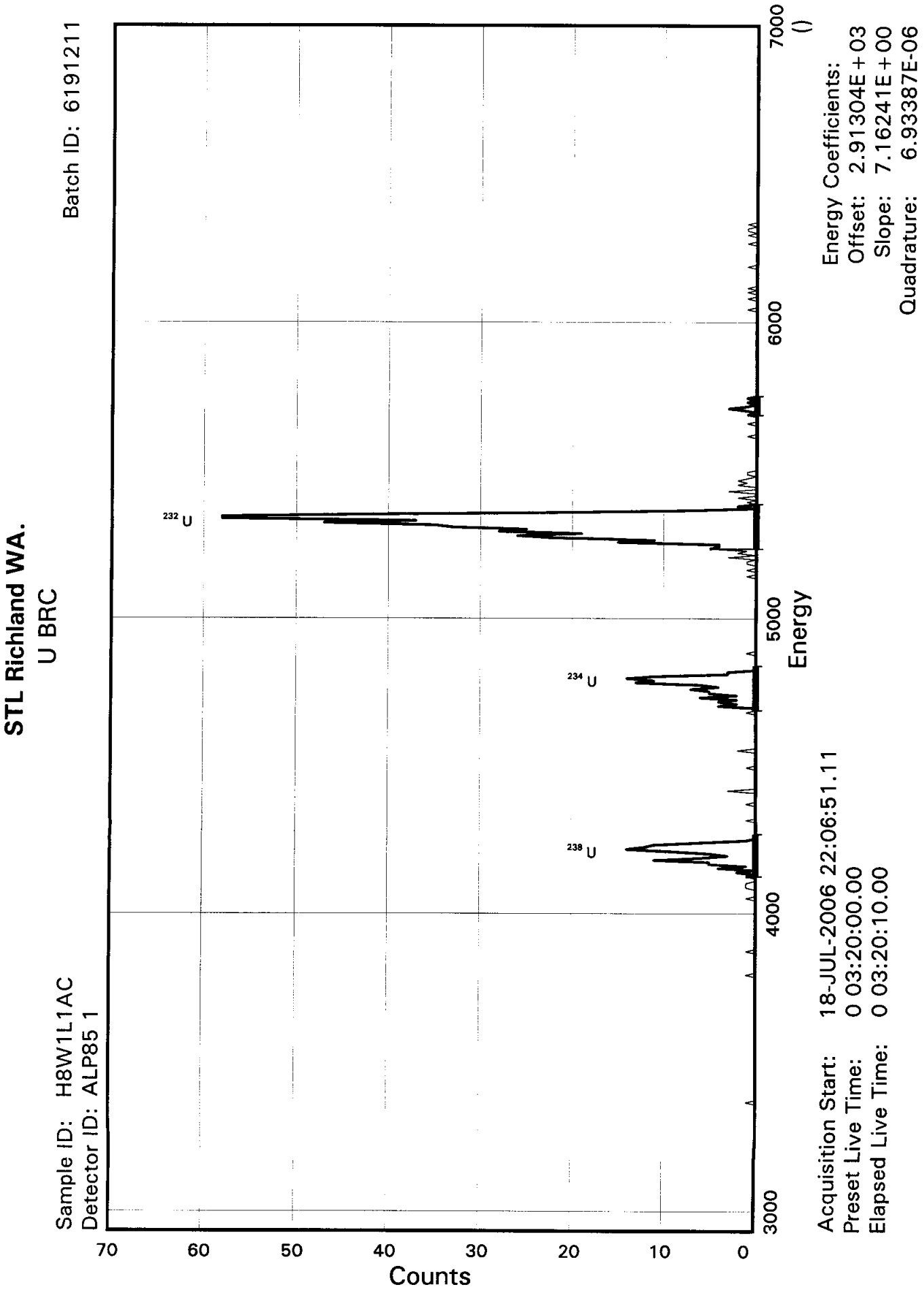
Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP84.SAMPLE]H8W1L1AA_180762206.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
5321.37	319	341	709	708	0.04		

End of Report


STL Richland WA.
U BRC
Batch ID: 6191211
Sample ID: H8W1L1AC
Detector ID: ALP85 1
232 U
234 U
238 U
Counts
Energy
70
60
50
40
30
20
10
0
3000
4000
5000
6000
7000
()
Acquisition Start: 18-JUL-2006 22:06:51.11
Preset Live Time: 0 03:20:00.00
Elapsed Live Time: 0 03:20:10.00
Energy Coefficients:
Offset: 2.91304E+03
Slope: 7.16241E+00
Quadrature: 6.93387E-06

SAMPLE IDENTIITY: H8W1L1AC

TITLE : U BRC

DETECTOR : ALP85 1
CONFIGURATION NAME : RDND06$DKA100:[ALP85.SAMPLE]H8W1L1AC_180762206.CNF;1
ACQUIRE DATE of BACKGROUND: 09-JUN-2006 06:58:12

REPORT DATE : 19-Jul-06 SAMPLE DATE: 12-JUN-2006 12:00:00
ACQUIRE DATE: 18-JUL-2006 22:06:51 CALIB DATE : 09-JUN-2006 06:21:45

PRESET LIVE TIME: 0 03:20:00 ELAPSED LIVE TIME: 0 03:20:10

OFFSET : 2913.04 keV CONSTANT FWHM : 9.83333 Channels
SLOPE : 7.16241 keV/C SENSITIVITY : 3.00000 Std Dev's
QUAD COEFF : 6.933870E-06 keV/C^2 SUM SENSITIVITY: 1.00000 %

Alpha Regions Report
(Version: 8-Oct-91)

Sample Identity: H8W1L1AC

Detector: ALP85 1
Report Date: 19-Jul-06 01:27 AM
Acquire Date: 18-JUL-2006 22:06:51.11
Tracer Nuclide: U-232
High Counts Limit: 36
Sample Live Time: 200 minutes
Bkgrnd Live Time: 2500 minutes

Flags Key

P: Peak Identified
I: Peak Intersect
S: Single Non-peak Intersect
M: Multiple Non-peak Intersect
H: High Non-peak Sample Count
A: Altered via ALP-RGN-EDIT

Nuclide Name	Smpl Count	Bkg Count	Intrsct Count	Count Rate C/Min	Centrd Energy keV	Region Width keV	Left Chnl	Rght Chnl	Left Wdth Mult	Rght Wdth Mult	Flags
U-232	500	45	0	2.480	5323.6	150.5	324	345	0.00	0.00	P
U-234	105	5	0	0.523	4778.0	150.5	248	269	0.00	0.00	P
U-235	5	1	0	0.025	4401.2	150.5	195	216	0.00	0.00	
U-238	96	0	0	0.480	4201.4	143.3	169	189	0.00	0.00	P

End of Alpha Region Report
(Produced by Alp_rgn_cnts)

Alpha Spectrum Listing
(Version: 29-Jun-92)

Sample Identity: H8W1L1AC
Detector: ALP85 1
Report Date: 19-Jul-06 01:27 AM
Acquire Date: 18-JUL-2006 22:06:51.11

Flags Key

Intersect Region: @
Non-Intersect Region: +, -

Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn	Cnt	F	Chn
		1	0		51	0		101	0		151	0	+	201	2	+	251	0		301	3		351	0		401	0		451	0		501
		2	0		52	0		102	0		152	0	+	202	4	+	252	0		302	0		352	0		402	0		452	0		502
0		3	0		53	0		103	0		153	0	+	203	2	+	253	0		303	0		353	0		403	0		453	0		503
0		4	0		54	0		104	0		154	1	+	204	6	+	254	0		304	2		354	0		404	0		454	0		504
0		5	0		55	0		105	0		155	0	+	205	2	+	255	0		305	1		355	0		405	0		455	0		505
0		6	0		56	0		106	0		156	0	+	206	5	+	256	0		306	2		356	0		406	0		456	0		506
0		7	0		57	0		107	0		157	0	+	207	5	+	257	0		307	1		357	0		407	1		457	0		507
0		8	0		58	0		108	0		158	0	+	208	7	+	258	0		308	0		358	0		408	0		458	0		508
0		9	0		59	0		109	1		159	0	+	209	4	+	259	0		309	1		359	0		409	0		459	0		509
0		10	0		60	0		110	0		160	3	+	210	6	+	260	0		310	1		360	0		410	0		460	0		510
0		11	0		61	0		111	0		161	0	+	211	13	+	261	1		311	0		361	0		411	0		461	0		511
0		12	0		62	0		112	0		162	0	+	212	11	+	262	0		312	0		362	0		412	0		462	0		512
0		13	1		63	0		113	0		163	0	+	213	14	+	263	0		313	0		363	0		413	0		463			
0		14	0		64	0		114	1		164	0	+	214	11	+	264	1		314	0		364	0		414	0		464			
0		15	0		65	0		115	1		165	0	+	215	3	+	265	0		315	0		365	0		415	0		465			
0		16	0		66	0		116	1		166	0	+	216	3	+	266	0		316	0		366	0		416	0		466			
0		17	0		67	0		117	0		167	0		217	0	+	267	1		317	0		367	0		417	0		467			
0		18	0		68	0		118	0		168	0		218	0	+	268	1		318	0		368	0		418	1		468			
0		19	0		69	0		119	1	+	169	0		219	0		269	0		319	0		369	0		419	0		469			
0		20	0		70	0		120	0	+	170	0		220	0		270	3		320	0		370	0		420	0		470			
0		21	0		71	0		121	2	+	171	1		221	0		271	0		321	0		371	0		421	0		471			
0		22	0		72	0		122	0	+	172	0		222	0		272	2		322	0		372	0		422	1		472			
0		23	0		73	1		123	4	+	173	0		223	0		273	1		323	0		373	0		423	0		473			
0		24	0		74	0		124	1	+	174	0		224	0		274	5	+	324	0		374	0		424	1		474			
0		25	0		75	0		125	5	+	175	0		225	1		275	4	+	325	0		375	0		425	1		475			
0		26	0		76	0		126	5	+	176	0		226	0		276	4	+	326	0		376	0		426	0		476			
0		27	0		77	0		127	11	+	177	0		227	0		277	15	+	327	1		377	0		427	1		477			
0		28	0		78	0		128	6	+	178	0		228	0		278	11	+	328	0		378	0		428	0		478			
0		29	0		79	0		129	3	+	179	2		229	0		279	22	+	329	0		379	0		429	0		479			
0		30	0		80	0		130	5	+	180	0		230	0		280	26	+	330	0		380	0		430	0		480			
0		31	0		81	0		131	9	+	181	0		231	0		281	19	+	331	0		381	0		431	0		481			
0		32	0		82	0		132	14	+	182	0		232	0		282	28	+	332	0		382	0		432	0		482			
0		33	0		83	0		133	12	+	183	0		233	0		283	25	+	333	1		383	0		433	0		483			
0		34	0		84	1		134	11	+	184	0		234	0		284	33	+	334	0		384	0		434	0		484			
0		35	0		85	0		135	6	+	185	0		235	0		285	35	+	335	0		385	0		435	0		485			
0		36	0		86	0		136	1	+	186	0		236	0		286	47	+	336	0		386	0		436	0		486			
0		37	0		87	0		137	0	+	187	0		237	0		287	37	+	337	1		387	1		437	0		487			
0		38	0		88	0		138	0	+	188	0		238	0		288	58	+	338	0		388	0		438	0		488			
0		39	0		89	0		139	0		189	0		239	0		289	58	+	339	1		389	0		439	0		489			
0		40	0		90	0		140	0		190	0		240	0		290	41	+	340	3		390	0		440	0		490			
0		41	0		91	0		141	0		191	0		241	0		291	20	+	341	1		391	0		441	0		491			
0		42	0		92	0		142	0		192	0		242	0		292	7	+	342	0		392	1		442	0		492			
0		43	0		93	0		143	0		193	0		243	0		293	0	+	343	1		393	0		443	0		493			
0		44	0		94	0		144	0		194	0		244	0		294	2	+	344	0		394	0		444	0		494			
0		45	0		95	0		145	0	+	195	0		245	0		295	0		345	1		395	1		445	0		495			
0		46	0		96	0		146	1	+	196	0		246	0		296	1		346	0		396	0		446	0		496			
0		47	0		97	0		147	0	+	197	1		247	0		297	0		347	0		397	1		447	0		497			
0		48	0		98	0		148	0	+	198	0	+	248	0		298	2		348	0		398	0		448	0		498			
0		49	0		99	0		149	0	+	199	0	+	249	0		299	0		349	0		399	0		449	0		499			
0		50	0		100	0		150	0	+	200	4	+	250	0		300	0		350	0		400	0		450	0		500			

VMS Peak Search Report V1.9 Generated 19-JUL-2006 01:27:05

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H8W1L1AC_180762206.CNF;1
Analyses by       : ALPHA V1.8
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:51
Sample ID         : H8W1L1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:10.00         Elapsed real time: 0 03:20:10.00   0.0%
Start energy      :  2934.52             End energy       :  6582.01
Sensitivity       :     3.00             Sum Sensitivity  :     1.00
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	4207.11	96	0	64.46	180.64	169	20	7.99E-03	10.2	
2	0	4787.88	105	0	42.97	261.69	248	21	8.74E-03	9.8	
3	0	5323.58	500	0	64.46	336.45	324	21	4.16E-02	4.5	
4	0	5711.01	6	0	42.97	390.50	387	9	5.00E-04	40.8	

VMS Nuclide Identification Report V3.1 Generated 19-JUL-2006 01:27:07

```
Configuration     : RDND06$DKA100:[ALP85.SAMPLE]H8W1L1AC_180762206.CNF;1
Analyses by       : ALPHA V1.8,PEAKEFF V2.2,NID V3.4
Sample title      : U BRC
Sample date       : 12-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 22:06:51
Sample ID         : H8W1L1AC             Sample quantity  : 0.00000E+00 SAMPLE
Sample type       : disk                 Sample geometry  :
Detector name     : ALP85                Detector geometry:
Elapsed live time: 0 03:20:10.00         Elapsed real time: 0 03:20:10.00   0.0%
Energy tolerance :    80.00              Half life ratio  :     1.00
Errors propagated: No                    Systematic Error :     0.00 %
Efficiency type  : Spline                Efficiencies at  : Peak Energy
Abundance limit  :    70.00
```

Summary of Nuclide Activity

```
 Total number of lines in spectrum                4
 Number of unidentified lines                     1
 Number of lines tentatively identified by NID    3       75.00%
```

Nuclide Type : AP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-232	68.90Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Nuclide Type : NP

Nuclide	Hlife	Decay	Uncorrected PCI/SAMPLE	Decay Corr PCI/SAMPLE	Decay Corr 0-Sigma Error	0-Sigma %Error	Flags
U-234	2.45E+05Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
U-238	4.47E+09Y	1.00	0.000E+00	0.000E+00	0.000E+00	0.00	
			---	---			
Total Activity :			0.000E+00	0.000E+00			

Grand Total Activity : 0.000E+00 0.000E+00

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

ITRD PEAK TEST REPORT (Version 16-May-94)

Configuration: RDND06$DKA100:[ALP85.SAMPLE]H8W1L1AC_180762206.CNF;1

Peak Energy	Left Chan	Rght Chan	Peak Area	Total Counts	Diff/ StDev	Overlap Counts	Multiplet Diff/StDev
4207.10	169	189	96	96	0.00		
4787.87	248	269	105	102	0.29		
5323.58	324	345	500	497	0.13		
5711.01	387	396	6	8	-0.82		

End of Report

ALPHA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/26/2006 11:40:58 AM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191216; RALPHA-A Alpha by GPC-Am

SDG, Matrix: 32052; FILTER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?			

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7-26-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6191216

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	/		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	/		
3. Are the correct isotopes reported?	/		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	/		
2. Does the blank result meet the Contract criteria?	/		
3. Is the blank result < the Contract Detection Limit?	/		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			/
5. Is the LCS recovery with contract acceptance criteria?	/		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	/		
8. Do the MS/MSD results and yields meet acceptance criteria?			/
9. Do the duplicate sample results and yields meet acceptance criteria?			/
C. Other			
1. Are all Nonconformances included and noted?			/
2. Are all required forms filled out?	/		
3. Was the correct methodology used?	/		
4. Was transcription checked?	/		
5. Were all calculations checked at a minimum frequency?	/		
6. Were units checked?	/		

Comments on any "No" response:

Second Level Review: Sheryl A Adam Date: 7-26-06

7/14/2006 11:33:16 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Balance Id:1120373922
Pipet #:
Sep1 DT/Tm Tech:
Sep2 DT/Tm Tech:
Prep Tech: HansenM

AnalyDueDate: 07/31/2006

Batch: 6191216 **FILTER** **pCi/sampl** **PM, Quote: SA , 63174**

SEQ Batch, Test: None

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8MXT-1-AE J6G030156-1-SAMP 06/12/2006 14:25	0.833g	12.80g,in AmtRec: FILTER	#Containers: 1	1.5	0.1	150	10A	2057	7/24/06 DD	Scr: Alpha: Beta:
2 H8MXV-1-AE J6G030156-2-SAMP 06/12/2006 15:45	0.833g	12.55g,in AmtRec: FILTER	#Containers: 1		0.2		10B			Scr: Alpha: Beta:
3 H8MXW-1-AE J6G030156-3-SAMP 06/12/2006 16:45	0.833g	12.55g,in AmtRec: FILTER	#Containers: 1		0.1		10C			Scr: Alpha: Beta:
4 H8MXX-1-AE J6G030156-4-SAMP 06/12/2006 17:50	0.833g	12.67g,in AmtRec: FILTER	#Containers: 1		0.2		10D			Scr: Alpha: Beta:
5 H8MX3-1-AE J6G030156-5-SAMP 06/12/2006 18:35	0.833g	12.54g,in AmtRec: FILTER	#Containers: 1		0.1		10E			Scr: Alpha: Beta:
6 H8MX6-1-AE J6G030156-6-SAMP 06/12/2006 19:10	0.833g	12.63g,in AmtRec: FILTER	#Containers: 1		0.1		10F	0557	7/25/06	Scr: Alpha: Beta:
7 H8MX8-1-AE J6G030156-7-SAMP 06/12/2006 14:35	0.833g	12.72g,in AmtRec: FILTER	#Containers: 1		0.1		10G			Scr: Alpha: Beta:

STL Richland
Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ISV - Insufficient Volume for Analysis

WO Cnt: 7
Prep_SamplePrep v4.8.24

STL RICHLAND

STL RICHLAND

7/14/2006 11:33:17 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191216 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H8M0K-1-AE J6G030156-8-SAMP 06/12/2006 00:49	0.833g	12.76g,in AmtRec: FILTER	#Containers: 1	1.5	0.1	150	10C Scr:	0857 Alpha:	7/25 [illegible] Beta:	
9 H8M0Q-1-AE J6G030156-9-SAMP 06/12/2006 00:49	0.833g	12.59g,in AmtRec: FILTER	#Containers: 1		0.1		10D Scr:	Alpha:	Beta:	
10 H8M0V-1-AE J6G030156-10-SAMP 06/12/2006 00:28	0.833g	12.63g,in AmtRec: FILTER	#Containers: 1		0.1		10E Scr:	Alpha:	Beta:	
11 H8M05-1-AE J6G030156-11-SAMP 06/12/2006 00:38	0.833g	12.77g,in AmtRec: FILTER	#Containers: 1		0.1		10A Scr:	1140 Alpha:	7/25 [illegible] Beta:	
12 H8M08-1-AE J6G030156-12-SAMP 06/12/2006 00:36	0.833g	12.76g,in AmtRec: FILTER	#Containers: 1		0.1		10B Scr:	Alpha:	Beta:	
13 H8M1C-1-AE J6G030156-13-SAMP 06/12/2006 00:37	0.833g	12.50g,in AmtRec: FILTER	#Containers: 1		0.1		10C Scr:	Alpha:	Beta:	
14 H8M1E-1-AE J6G030156-14-SAMP 06/12/2006 00:33	0.833g	12.83g,in AmtRec: FILTER	#Containers: 1		0.1		10D Scr:	Alpha:	Beta:	

7/14/2006 11:33:18 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191216 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H8M1G-1-AE J6G030156-15-SAMP 06/12/2006 00:24	0.833g	12.66g,in AmtRec: FILTER	#Containers: 1	1.5	0.1	150	10E	1140	7/25/06	
								Scr:	Alpha:	Beta:
16H8W1R-1-AA-B J6G100000-216-BLK 06/12/2006 14:25		1.00sa,in AmtRec:	#Containers: 1		0.1		10A	1424		
								Scr:	Alpha:	Beta:
17H8W1R-1-AC-C J6G100000-216-LCS 06/12/2006 14:25		1.00sa,in AmtRec:	ASC0395 06/15/06,pd 02/09/06,r #Containers: 1		0.1		10B			
								Scr:	Alpha:	Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H8MXT1AE-SAMP Constituent List:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H8W1R1AA-BLK:
ALPHA RDL:20 pCi/sam LCL: UCL: RPD:
H8W1R1AC-LCS:

H8MXT1AE-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W1R1AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W1R1AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

7/26/2006 11:20:55 AM

ICOC Fraction Transfer/Status Report

ByDate: 7/26/2005, 7/31/2006, Batch: '6191216', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191216						
AC		**CalcC**	**HansenM**	7/14/2006 1:33:41 PM		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/14/2006 1:33:41 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/14/2006 1:34:13 PM	RICH-RC-5016 REVISION 5
SC			DAWKINSO	InCnt1	7/24/2006 6:17:53 PM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	7/25/2006 9:46:50 PM	RICH-RD-0003 REVISION 4
AC			**HansenM**	7/14/2006 1:34:13 PM		
AC			**HansenM**	7/24/2006 5:51:08 PM		
AC			**HansenM**	7/24/2006 5:51:27 PM		
AC			**DAWKINSO**	7/24/2006 6:17:53 PM		
AC			**DAWKINSO**	7/25/2006 9:46:50 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/26/2006 11:20:54 AM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / mga	Units	Expected	Yield	Volumes
32052	**9H8M0510**			**J6G03015611**	000497	FILTER	7/3/2006 10:00:00	6/13/2006 2:00:00 PM				
ALPHA	BAS7		0	7/25/2006 10:25:03	**4.5467E+00**	1.636E+00	1.703E+00	5.149E+00	PCI/SA		1.0	1.0E+0	2.117E-2
BETA	BDS8		0	7/25/2006 8:04:00 AM	**3.1988E+01**	2.058E+00	3.015E+00	5.268E+00	PCI/SA		1.0	1.0E+0	3.49E-2
RA-226	BXTE		0	7/22/2006 12:09:00 PM	**7.0504E-03**	1.394E-01	1.394E-01	5.897E-01	PCI/SA		0.961	1.0E+0	2.489E-1
RA-228	BXTF		0	7/25/2006 7:07:54 AM	**8.3658E-01**	3.722E-01	3.836E-01	1.637E+00	PCI/SA		0.854	1.0E+0	2.489E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**5.7793E-02**	5.779E-02	5.801E-02	2.311E-01	PCI/SA		1.093	1.0E+0	3.315E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**2.9555E-01**	1.045E-01	1.076E-01	1.001E-01	PCI/SA		1.093	1.0E+0	3.315E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**9.236E-02**	6.66E-02	6.709E-02	2.216E-01	PCI/SA		1.093	1.0E+0	3.315E-2
U-234	7YSR		0	7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA		0.939	1.0E+0	3.247E-2
U-235	7YSR		0	7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA		0.939	1.0E+0	3.247E-2
U-238	7YSR		0	7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA		0.939	1.0E+0	3.247E-2
32052	**9H8M0810**			**J6G03015612**	000498	FILTER	7/3/2006 10:00:00	6/13/2006 12:00:00 PM				
ALPHA	BAS7		0	7/25/2006 10:25:03	**4.4296E+00**	1.518E+00	1.586E+00	4.456E+00	PCI/SA		1.0	1.0E+0	2.107E-2
BETA	BDS8		0	7/25/2006 8:04:03 AM	**3.3794E+01**	2.001E+00	3.046E+00	4.961E+00	PCI/SA		1.0	1.0E+0	3.705E-2
RA-226	BXTE		0	7/22/2006 12:11:01 PM	**2.3986E-01**	1.884E-01	1.901E-01	6.618E-01	PCI/SA		0.929	1.0E+0	2.495E-1
RA-228	BXTF		0	7/25/2006 7:07:54 AM	**2.4165E+00**	4.918E-01	5.158E-01	1.737E+00	PCI/SA		0.807	1.0E+0	2.495E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.7058E-01**	9.848E-02	9.962E-02	3.186E-01	PCI/SA		1.035	1.0E+0	3.514E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**4.1797E-01**	1.272E-01	1.324E-01	2.18E-01	PCI/SA		1.035	1.0E+0	3.514E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**6.0639E-07**	4.451E-02	4.451E-02	2.675E-01	PCI/SA		1.035	1.0E+0	3.514E-2
U-234	7YSR		0	7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA		1.037	1.0E+0	3.198E-2
U-235	7YSR		0	7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA		1.037	1.0E+0	3.198E-2
U-238	7YSR		0	7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA		1.037	1.0E+0	3.198E-2
32052	**9H8M0K10**			**J6G0301568**	000494	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
ALPHA	BAS7		0	7/25/2006 7:41:57 AM	**6.0152E+00**	1.566E+00	1.685E+00	3.064E+00	PCI/SA		1.0	1.0E+0	2.119E-2
BETA	BDS8		0	7/24/2006 7:37:55 PM	**3.6285E+01**	2.191E+00	3.392E+00	5.671E+00	PCI/SA		1.0	1.0E+0	3.401E-2
RA-226	BXTE		0	7/22/2006 11:40:01	**5.1423E-01**	2.699E-01	2.748E-01	8.78E-01	PCI/SA		0.913	1.0E+0	2.543E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**2.0608E+00**	5.112E-01	5.355E-01	1.989E+00	PCI/SA		0.804	1.0E+0	2.543E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.8768E-06**	7.954E-02	7.954E-02	4.036E-01	PCI/SA		1.022	1.0E+0	3.371E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**4.1367E-01**	1.259E-01	1.311E-01	2.158E-01	PCI/SA		1.022	1.0E+0	3.371E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**6.0016E-07**	4.406E-02	4.406E-02	2.648E-01	PCI/SA		1.022	1.0E+0	3.371E-2
U-234	7YSR		0	7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA		1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA		1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA		1.05	1.0E+0	3.234E-2
32052	**9H8M0Q10**			**J6G0301569**	000495	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
ALPHA	BAS7		0	7/25/2006 7:41:57 AM	**7.1215E+00**	1.941E+00	2.073E+00	5.596E+00	PCI/SA		1.0	1.0E+0	2.097E-2
BETA	BDS8		0	7/25/2006 8:04:00 AM	**3.4647E+01**	2.104E+00	3.284E+00	5.559E+00	PCI/SA		1.0	1.0E+0	3.423E-2
RA-226	BXTE		0	7/22/2006 12:11:00 PM	**2.2471E-01**	1.88E-01	1.893E-01	6.636E-01	PCI/SA		0.994	1.0E+0	2.516E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**1.1188E+00**	4.041E-01	4.203E-01	1.723E+00	PCI/SA		0.893	1.0E+0	2.516E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.6142E-01**	9.508E-02	9.619E-02	2.766E-01	PCI/SA		0.961	1.0E+0	3.361E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**2.6546E-01**	1.084E-01	1.11E-01	1.199E-01	PCI/SA		0.961	1.0E+0	3.361E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**4.4243E-02**	4.424E-02	4.442E-02	1.199E-01	PCI/SA		0.961	1.0E+0	3.361E-2
U-234	7YSR		0	7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA		0.987	1.0E+0	3.258E-2
U-235	7YSR		0	7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA		0.987	1.0E+0	3.258E-2
U-238	7YSR		0	7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA		0.987	1.0E+0	3.258E-2
32052	**9H8M0V10**			**J6G03015610**	000496	FILTER	7/3/2006 10:00:00	6/13/2006 4:00:00 AM				
ALPHA	BAS7		0	7/25/2006 7:41:57 AM	**3.708E+00**	1.564E+00	1.61E+00	5.228E+00	PCI/SA		1.0	1.0E+0	2.097E-2
BETA	BDS8		0	7/25/2006 8:04:00 AM	**2.6174E+01**	1.937E+00	2.668E+00	5.432E+00	PCI/SA		1.0	1.0E+0	3.487E-2
RA-226	BXTE		0	7/22/2006 12:12:00 PM	**6.1129E-01**	3.01E-01	3.071E-01	9.678E-01	PCI/SA		0.977	1.0E+0	2.504E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**7.5904E-01**	4.099E-01	4.374E-01	1.931E+00	PCI/SA		0.883	1.0E+0	2.504E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**9.0006E-02**	6.364E-02	6.415E-02	1.22E-01	PCI/SA		1.046	1.0E+0	3.426E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**1.7254E-01**	8.627E-02	8.764E-02	1.169E-01	PCI/SA		1.046	1.0E+0	3.426E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**4.3134E-02**	4.313E-02	4.331E-02	1.169E-01	PCI/SA		1.046	1.0E+0	3.426E-2

6191216, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AE=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AE=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AE=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AE=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / mga	Units	Expected	Yield	Volumes
U-234	7YSR	0		7/18/2006 11:45:19 PM	**1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-235	7YSR	0		7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-238	7YSR	0		7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
32052	**9H8M1C10**			**J6G03015613**	000499	FILTER	7/3/2006 10:00:00	6/13/2006 1:00:00 PM				
ALPHA	BAS7	0		7/25/2006 10:25:03	**2.8262E+00**	1.158E+00	1.195E+00	3.167E+00	PCI/SA	1.0	1.0E+0	2.05E-2
BETA	BDS8	0		7/25/2006 8:04:03 AM	**3.5671E+01**	2.062E+00	3.183E+00	5.008E+00	PCI/SA	1.0	1.0E+0	3.287E-2
RA-226	BXTE	0		7/22/2006 12:12:00 PM	**2.8971E-01**	1.836E-01	1.863E-01	6.209E-01	PCI/SA	0.987	1.0E+0	2.473E-1
RA-228	BXTF	0		7/25/2006 7:07:54 AM	**1.6293E+00**	4.611E-01	4.915E-01	1.927E+00	PCI/SA	0.85	1.0E+0	2.473E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**6.4329E-02**	6.433E-02	6.458E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.4672E-01**	1.007E-01	1.031E-01	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**0.0E+00**	0.0E+00	5.036E-02	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
U-234	7YSR	0		7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA	0.936	1.0E+0	3.152E-2
U-235	7YSR	0		7/18/2006 11:45:58 PM	**-2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA	0.936	1.0E+0	3.152E-2
U-238	7YSR	0		7/18/2006 11:45:58 PM	**-5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA	0.936	1.0E+0	3.152E-2
32052	**9H8M1E10**			**J6G03015614**	000500	FILTER	7/3/2006 10:00:00	6/13/2006 9:00:00 AM				
ALPHA	BAS7	0		7/25/2006 10:25:03	**-1.3566E-01**	1.1E+00	1.1E+00	5.49E+00	PCI/SA	1.0	1.0E+0	2.137E-2
BETA	BDS8	0		7/25/2006 8:04:03 AM	**4.7454E-02**	1.168E+00	1.168E+00	4.973E+00	PCI/SA	1.0	1.0E+0	3.485E-2
RA-226	BXTE	0		7/22/2006 12:10:00 PM	**2.478E-02**	1.863E-01	1.863E-01	7.319E-01	PCI/SA	0.956	1.0E+0	2.591E-1
RA-228	BXTF	0		7/25/2006 7:07:54 AM	**7.884E-01**	3.863E-01	3.924E-01	1.699E+00	PCI/SA	0.84	1.0E+0	2.591E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.8471E-02**	4.13E-02	4.133E-02	2.216E-01	PCI/SA	0.961	1.0E+0	3.455E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.3122E-02**	5.312E-02	5.333E-02	2.124E-01	PCI/SA	0.961	1.0E+0	3.455E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**-3.5414E-02**	2.504E-02	2.523E-02	2.607E-01	PCI/SA	0.961	1.0E+0	3.455E-2
U-234	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	3.256E-2
U-235	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA	0.973	1.0E+0	3.256E-2
U-238	7YSR	0		7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA	0.973	1.0E+0	3.256E-2
32052	**9H8M1G10**			**J6G03015615**	000501	FILTER	7/3/2006 10:00:00	6/13/2006				
ALPHA	BAS7	0		7/25/2006 10:25:03	**-3.7413E-01**	9.756E-01	9.764E-01	5.275E+00	PCI/SA	1.0	1.0E+0	2.079E-2
BETA	BDS8	0		7/25/2006 8:03:59 AM	**2.1848E+00**	1.302E+00	1.311E+00	5.245E+00	PCI/SA	1.0	1.0E+0	3.328E-2
RA-226	BXTE	0		7/22/2006 12:13:00 PM	**-1.774E-02**	1.291E-01	1.292E-01	5.48E-01	PCI/SA	1.023	1.0E+0	2.487E-1
RA-228	BXTF	0		7/25/2006 7:08:03 AM	**7.8992E-01**	4.536E-01	4.697E-01	2.083E+00	PCI/SA	0.943	1.0E+0	2.487E-1
TH-228	9NS1	0		7/19/2006 8:36:46 PM	**4.7234E-02**	7.468E-02	7.48E-02	3.476E-01	PCI/SA	0.93	1.0E+0	3.504E-2
TH-230	9NS1	0		7/19/2006 8:36:46 PM	**4.9791E-01**	1.501E-01	1.568E-01	1.227E-01	PCI/SA	0.93	1.0E+0	3.504E-2
TH-232	9NS1	0		7/19/2006 8:36:46 PM	**0.0E+00**	0.0E+00	5.544E-02	1.227E-01	PCI/SA	0.93	1.0E+0	3.504E-2
U-234	7YSR	0		7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA	1.01	1.0E+0	3.18E-2
U-235	7YSR	0		7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA	1.01	1.0E+0	3.18E-2
U-238	7YSR	0		7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA	1.01	1.0E+0	3.18E-2
32052	**9H8MX310**			**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00	6/12/2006 6:35:00 PM				
ALPHA	BAS7	0		7/24/2006 7:41:40 PM	**8.2528E+00**	1.909E+00	2.088E+00	4.038E+00	PCI/SA	1.0	1.0E+0	2.073E-2
BETA	BDS8	0		7/24/2006 7:37:55 PM	**2.4778E+01**	1.895E+00	2.546E+00	5.23E+00	PCI/SA	1.0	1.0E+0	3.289E-2
RA-226	BXTE	0		7/22/2006 11:42:00	**-2.4609E-01**	2.871E-01	2.881E-01	1.156E+00	PCI/SA	0.951	1.0E+0	2.508E-1
RA-228	BXTF	0		7/25/2006 8:06:04 AM	**-2.7397E-01**	4.927E-01	4.927E-01	2.436E+00	PCI/SA	0.824	1.0E+0	2.508E-1
TH-228	9NS1	0		7/19/2006 10:14:41	**9.0145E-02**	8.433E-02	8.471E-02	3.318E-01	PCI/SA	1.069	1.0E+0	3.286E-2
TH-230	9NS1	0		7/19/2006 10:14:41	**4.3207E-01**	1.366E-01	1.42E-01	1.171E-01	PCI/SA	1.069	1.0E+0	3.286E-2
TH-232	9NS1	0		7/19/2006 10:14:41	**4.3207E-02**	4.321E-02	4.338E-02	1.171E-01	PCI/SA	1.069	1.0E+0	3.286E-2
U-234	7YSR	0		7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA	0.965	1.0E+0	3.266E-2
U-235	7YSR	0		7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA	0.965	1.0E+0	3.266E-2
U-238	7YSR	0		7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA	0.965	1.0E+0	3.266E-2
32052	**9H8MX610**			**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00	6/12/2006 7:10:00 PM				
ALPHA	BAS7	0		7/25/2006 7:41:57 AM	**3.1632E+00**	1.494E+00	1.53E+00	5.229E+00	PCI/SA	1.0	1.0E+0	2.085E-2
BETA	BDS8	0		7/24/2006 7:37:55 PM	**2.5276E+01**	1.869E+00	2.551E+00	5.127E+00	PCI/SA	1.0	1.0E+0	3.443E-2
RA-226	BXTE	0		7/22/2006 11:40:01	**-2.9157E-01**	2.781E-01	2.796E-01	1.241E+00	PCI/SA	0.827	1.0E+0	2.498E-1
RA-228	BXTF	0		7/25/2006 8:06:04 AM	**1.5574E+00**	6.177E-01	6.43E-01	2.733E+00	PCI/SA	0.721	1.0E+0	2.498E-1
TH-228	9NS1	0		7/19/2006 10:14:43	**-3.742E-05**	2.778E-01	2.778E-01	1.489E+00	PCI/SA	0.288	1.0E+0	3.449E-2
TH-230	9NS1	0		7/19/2006 10:14:43	**6.9177E-01**	3.522E-01	3.611E-01	9.221E-01	PCI/SA	0.288	1.0E+0	3.449E-2

6191216, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AE=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AE=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AE=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AE=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / MDA	Units	Expected	Yield	Volumes
TH-232	9NS1	0	7/19/2006 10:14:43	**0.0E+00**	0.0E+00	1.883E-01	4.166E-01	PCI/SA	0.288	1.0E+0	3.449E-2
U-234	7YSR	0	7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA	0.83	1.0E+0	3.244E-2
U-235	7YSR	0	7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA	0.83	1.0E+0	3.244E-2
U-238	7YSR	0	7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA	0.83	1.0E+0	3.244E-2
32052	**9H8MX810**		**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00	6/12/2006 2:35:00 PM				
ALPHA	BAS7	0	7/25/2006 7:41:57 AM	**4.7722E+00**	1.555E+00	1.632E+00	4.445E+00	PCI/SA	1.0	1.0E+0	2.113E-2
BETA	BDS8	0	7/24/2006 7:37:55 PM	**2.7055E+01**	1.867E+00	3.059E+00	4.895E+00	PCI/SA	1.0	1.0E+0	3.439E-2
RA-226	BXTE	0	7/22/2006 11:41:00	**6.9133E-01**	2.808E-01	2.895E-01	8.599E-01	PCI/SA	0.966	1.0E+0	2.514E-1
RA-228	BXTF	0	7/25/2006 7:07:44 AM	**2.213E+00**	5.068E-01	5.272E-01	1.884E+00	PCI/SA	0.876	1.0E+0	2.514E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**5.4185E-02**	1.271E-01	1.272E-01	5.832E-01	PCI/SA	0.701	1.0E+0	3.517E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**5.969E-01**	1.817E-01	1.899E-01	3.113E-01	PCI/SA	0.701	1.0E+0	3.517E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**5.1904E-02**	5.19E-02	5.213E-02	1.407E-01	PCI/SA	0.701	1.0E+0	3.517E-2
U-234	7YSR	0	7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA	1.018	1.0E+0	3.245E-2
U-235	7YSR	0	7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA	1.018	1.0E+0	3.245E-2
U-238	7YSR	0	7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA	1.018	1.0E+0	3.245E-2
32052	**9H8MXT10**		**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM				
ALPHA	BAS7	0	7/24/2006 7:41:40 PM	**5.8544E+00**	1.918E+00	2.013E+00	6.111E+00	PCI/SA	1.0	1.0E+0	2.123E-2
BETA	BDS8	0	7/24/2006 7:37:25 PM	**2.6315E+01**	1.873E+00	2.64E+00	5.044E+00	PCI/SA	1.0	1.0E+0	3.503E-2
RA-226	BXTE	0	7/22/2006 11:42:00	**-4.6495E-01**	2.373E-01	2.421E-01	1.035E+00	PCI/SA	0.951	1.0E+0	2.535E-1
RA-228	BXTF	0	7/25/2006 7:07:26 AM	**-2.7559E-01**	5.109E-01	5.109E-01	2.494E+00	PCI/SA	0.874	1.0E+0	2.535E-1
TH-228	9NS1	0	7/19/2006 10:14:05	**2.1989E-02**	4.917E-02	4.921E-02	2.638E-01	PCI/SA	0.975	1.0E+0	3.395E-2
TH-230	9NS1	0	7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA	0.975	1.0E+0	3.395E-2
TH-232	9NS1	0	7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA	0.975	1.0E+0	3.395E-2
U-234	7YSR	0	7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA	1.043	1.0E+0	3.244E-2
U-235	7YSR	0	7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA	1.043	1.0E+0	3.244E-2
U-238	7YSR	0	7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA	1.043	1.0E+0	3.244E-2
32052	**9H8MXV10**		**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00	6/12/2006 3:45:00 PM				
ALPHA	BAS7	0	7/24/2006 7:41:40 PM	**3.9703E+00**	1.438E+00	1.496E+00	4.254E+00	PCI/SA	1.0	1.0E+0	2.089E-2
BETA	BDS8	0	7/24/2006 7:37:25 PM	**2.1323E+01**	1.743E+00	2.511E+00	4.916E+00	PCI/SA	1.0	1.0E+0	3.365E-2
RA-226	BXTE	0	7/22/2006 11:40:00	**2.1993E-01**	2.47E-01	2.481E-01	8.946E-01	PCI/SA	1.075	1.0E+0	2.544E-1
RA-228	BXTF	0	7/25/2006 7:07:26 AM	**1.0132E+00**	4.899E-01	5.02E-01	2.182E+00	PCI/SA	0.975	1.0E+0	2.544E-1
TH-228	9NS1	0	7/19/2006 10:14:05	**1.7101E-02**	3.824E-02	3.827E-02	2.051E-01	PCI/SA	1.077	1.0E+0	3.779E-2
TH-230	9NS1	0	7/19/2006 10:14:05	**2.7863E-01**	9.97E-02	1.026E-01	1.966E-01	PCI/SA	1.077	1.0E+0	3.779E-2
TH-232	9NS1	0	7/19/2006 10:14:05	**-3.2779E-02**	2.318E-02	2.335E-02	2.413E-01	PCI/SA	1.077	1.0E+0	3.779E-2
U-234	7YSR	0	7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA	1.004	1.0E+0	3.27E-2
U-235	7YSR	0	7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA	1.004	1.0E+0	3.27E-2
U-238	7YSR	0	7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA	1.004	1.0E+0	3.27E-2
32052	**9H8MXW10**		**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM				
ALPHA	BAS7	0	7/24/2006 7:41:40 PM	**4.7984E+00**	1.557E+00	1.635E+00	4.215E+00	PCI/SA	1.0	1.0E+0	2.045E-2
BETA	BDS8	0	7/24/2006 7:37:25 PM	**2.9691E+01**	1.954E+00	2.81E+00	5.111E+00	PCI/SA	1.0	1.0E+0	3.441E-2
RA-226	BXTE	0	7/22/2006 11:39:00	**1.3365E+00**	3.131E-01	3.436E-01	7.782E-01	PCI/SA	0.945	1.0E+0	2.52E-1
RA-228	BXTF	0	7/25/2006 7:07:26 AM	**2.9463E-01**	6.006E-01	6.045E-01	2.81E+00	PCI/SA	0.863	1.0E+0	2.52E-1
TH-228	9NS1	0	7/19/2006 10:14:26	**-9.5285E-02**	4.261E-02	4.343E-02	3.835E-01	PCI/SA	0.899	1.0E+0	3.344E-2
TH-230	9NS1	0	7/19/2006 10:14:26	**4.9309E-01**	1.379E-01	1.446E-01	2.191E-01	PCI/SA	0.899	1.0E+0	3.344E-2
TH-232	9NS1	0	7/19/2006 10:14:26	**3.6525E-02**	3.653E-02	3.667E-02	9.898E-02	PCI/SA	0.899	1.0E+0	3.344E-2
U-234	7YSR	0	7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA	0.853	1.0E+0	3.157E-2
U-235	7YSR	0	7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA	0.853	1.0E+0	3.157E-2
U-238	7YSR	0	7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA	0.853	1.0E+0	3.157E-2
32052	**9H8MXX10**		**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM				
ALPHA	BAS7	0	7/24/2006 7:41:40 PM	**4.9131E+00**	1.601E+00	1.678E+00	4.745E+00	PCI/SA	1.0	1.0E+0	2.111E-2
BETA	BDS8	0	7/24/2006 7:37:25 PM	**3.3206E+01**	2.045E+00	3.092E+00	5.181E+00	PCI/SA	1.0	1.0E+0	3.46E-2
RA-226	BXTE	0	7/22/2006 11:41:00	**5.698E-01**	2.615E-01	2.69E-01	8.269E-01	PCI/SA	0.857	1.0E+0	2.514E-1
RA-228	BXTF	0	7/25/2006 8:06:04 AM	**-2.5504E-01**	5.585E-01	5.592E-01	2.73E+00	PCI/SA	0.768	1.0E+0	2.514E-1
TH-228	9NS1	0	7/19/2006 10:14:33	**1.1341E-01**	9.889E-02	9.941E-02	3.814E-01	PCI/SA	0.957	1.0E+0	3.477E-2

6191216, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AE=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AE=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AE=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AE=> ,

SDG or Batch Isotope	Rpt Db Id Method	RTst	Qc	LotSample Analysis Date	Client Id Result	Matrix Cnt Uncert	Received Date Tot Uncert	Mda	Sample Date Units	Expected	Yield	Volumes	
TH-230	9NS1	0		7/19/2006 10:14:33	**4.3487E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-232	9NS1	0		7/19/2006 10:14:33	**0.0E+00**	0.0E+00	5.326E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
32052	**H8W1R1AB**			**J6G100000216**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00		6/12/2006 2:25:00 PM				
ALPHA	BAS7	0	B	7/25/2006 1:08:36 PM	**5.3058E-03**	2.26E-02	2.261E-02	1.09E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32052	**H8W1R1CS**			**J6G100000216**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00		6/12/2006 2:25:00 PM				
ALPHA	BAS7	0	S	7/25/2006 1:08:36 PM	**2.5876E+00**	1.402E-01	2.98E-01	9.39E-02	PCI/SA	2.3782E+00	1.0	1.0E+0	1.0E+0

6191216, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AE=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AE=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AE=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AE=> ,

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Results Summary Report

7/25/2006 9:14:32 PM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Alpha by GPC-Am				Richland Standard Gross Alpha/Beta Wo Blk Subt										
Calc	S7	FILTER	**H8MXT1AE**	ALPHA	**5.85E+00**	**(2.01E+00)**		PCI/SA	R	2.57E+00	6.11E+00	CRDL met	100%	
Calc	S7	FILTER	**H8MXV1AE**	ALPHA	**3.97E+00**	**(1.50E+00)**		PCI/SA	R	1.64E+00	4.25E+00		100%	
Calc	S7	FILTER	**H8MXW1AE**	ALPHA	**4.80E+00**	**(1.63E+00)**		PCI/SA	R	1.60E+00	4.22E+00		100%	
Calc	S7	FILTER	**H8MXX1AE**	ALPHA	**4.91E+00**	**(1.68E+00)**		PCI/SA	R	1.91E+00	4.75E+00		100%	
Calc	S7	FILTER	**H8MX31AE**	ALPHA	**8.25E+00**	**(2.09E+00)**		PCI/SA	R	1.51E+00	4.04E+00		100%	
Calc	S7	FILTER	**H8MX61AE**	ALPHA	**3.16E+00**	**(1.53E+00)**		PCI/SA	R	2.12E+00	5.23E+00		100%	
Calc	S7	FILTER	**H8MX81AE**	ALPHA	**4.77E+00**	**(1.63E+00)**		PCI/SA	R	1.74E+00	4.44E+00		100%	
Calc	S7	FILTER	**H8M0K1AE**	ALPHA	**6.02E+00**	**(1.69E+00)**		PCI/SA	R	1.04E+00	3.06E+00		100%	
Calc	S7	FILTER	**H8M0Q1AE**	ALPHA	**7.12E+00**	**(2.07E+00)**		PCI/SA	R	2.33E+00	5.60E+00		100%	
Calc	S7	FILTER	**H8M0V1AE**	ALPHA	**3.71E+00**	**(1.61E+00)**		PCI/SA	R	2.11E+00	5.23E+00		100%	
Calc	S7	FILTER	**H8M051AE**	ALPHA	**4.55E+00**	**(1.70E+00)**		PCI/SA	R	2.09E+00	5.15E+00		100%	
Calc	S7	FILTER	**H8M081AE**	ALPHA	**4.43E+00**	**(1.59E+00)**		PCI/SA	R	1.75E+00	4.46E+00		100%	
Calc	S7	FILTER	**H8M1C1AE**	ALPHA	**2.83E+00**	**(1.19E+00)**		PCI/SA	R	1.07E+00	3.17E+00		100%	
Calc	S7	FILTER	**H8M1E1AE**	ALPHA	**-1.36E-01**	**(1.10E+00)**	**U4**	PCI/SA	R	2.29E+00	5.49E+00		100%	
Calc	S7	FILTER	**H8M1G1AE**	ALPHA	**-3.74E-01**	**(9.76E-01)**	**U4**	PCI/SA	R	2.13E+00	5.28E+00		100%	
Calc	S7	FILTER	**H8W1R1AA**	ALPHA	**5.31E-03**	**(2.26E-02)**	**U4**	PCI/SA	R	4.43E-02	1.09E-01	**B**	100%	
Calc	S7	FILTER	**H8W1R1AC**	ALPHA	**2.59E+00**	**(2.98E-01)**		PCI/SA	R	3.69E-02	9.39E-02	**S**	100%	109%

P Anderson
7-26-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC:- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/25/2006 9:14:33 PM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S7	FILTER	*STLE	GabWoBS	**H8MXT1AE**	**PCI/SA**		06/12/06 14:25	07/24/06 19:41			1	1.00 Sa	
536403,P-0668					,J6G030156-1 v4.8.24		FILTER			00.1				0.021233 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 20:56	ALPHA	26	32	GPC10A	1.5	N	N	3.9619E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.096339		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**5.854375**		1.09333E-01	0.27596	0.27596	1.00 Sa	100%		6.110503		
				(2.012779)		(3.5827E-02)	(0.09357)	(0.09357)	(0.027096)			2.57308		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S7	FILTER	*STLE	GabWoBS	**H8MXV1AE**	**PCI/SA**		06/12/06 15:45	07/24/06 19:41			1	1.00 Sa	
536403,P-0669					,J6G030156-2 v4.8.24		FILTER			00.2				0.020887 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 20:56	ALPHA	15	13	GPC10B	1.5	N	N	4.0195E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.349E-02)	(0.000E+00)		8%			(0.000E+00)	47.875724		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**3.970264**		7.40000E-02	0.184102	0.184102	1.00 Sa	100%		4.253911		
				(1.496113)		(2.6808E-02)	(0.06858)	(0.06858)	(0.027097)			1.643273		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S7	FILTER	*STLE	GabWoBS	**H8MXW1AE**	**PCI/SA**		06/12/06 16:45	07/24/06 19:41			1	1.00 Sa	
536403,P-0670					,J6G030156-3 v4.8.24		FILTER			00.1				0.020446 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 20:56	ALPHA	16	11	GPC10C	1.5	N	N	3.8874E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.295E-02)	(0.000E+00)		8%			(0.000E+00)	48.909763		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**4.798402**		8.46667E-02	0.217798	0.217798	1.00 Sa	100%		4.21547		
				(1.63485)		(2.7479E-02)	(0.073164)	(0.073164)	(0.027097)			1.596727		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S7	FILTER	*STLE	GabWoBS	**H8MXX1AE**	**PCI/SA**		06/12/06 17:50	07/24/06 19:41			1	1.00 Sa	
536403,P-0671					,J6G030156-4 v4.8.24		FILTER			00.2				0.021105 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 20:56	ALPHA	20	19	GPC10D	1.5	N	N	4.1414E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	47.381541		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/25/2006 9:14:33 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**4.913126**		9.53333E-02	0.230198	0.230198	1.00 Sa	100%		4.745366		
				(1.678011)		(3.1063E-02)	(0.077523)	(0.077523)	(0.027096)			1.908272		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S7	FILTER	*STLE	GabWoBS	**H8MX31AE**	**PCI/SA**		06/12/06 18:35	07/24/06 19:41			1	1.00 Sa	
536403,P-0672					,J6G030156-5 v4.8.24		FILTER			00.1				0.020732 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 20:56	ALPHA	25	10	GPC10E	1.5	N	N	3.8614E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.143E-02)	(0.000E+00)		8%			(0.000E+00)	48.235562		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**8.252782**		1.46667E-01	0.379828	0.379828	1.00 Sa	100%		4.037875		
				(2.088169)		(3.3928E-02)	(0.093647)	(0.093647)	(0.027097)			1.511538		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S7	FILTER	*STLE	GabWoBS	**H8MX61AE**	**PCI/SA**		06/12/06 19:10	07/25/06 07:41			1	1.00 Sa	
536403,P-0673					,J6G030156-6 v4.8.24		FILTER			00.1				0.020847 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 08:56	ALPHA	15	21	GPC10A	1.5	N	N	3.9619E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.968831		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**3.163209**		5.80000E-02	0.146394	0.146394	1.00 Sa	100%		5.228897		
				(1.530073)		(2.7398E-02)	(0.070321)	(0.070321)	(0.027097)			2.123048		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S7	FILTER	*STLE	GabWoBS	**H8MX81AE**	**PCI/SA**		06/12/06 14:35	07/25/06 07:41			1	1.00 Sa	
536403,P-0674					,J6G030156-7 v4.8.24		FILTER			00.1				0.021126 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 08:56	ALPHA	18	15	GPC10B	1.5	N	N	4.0213E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.350E-02)	(0.000E+00)		8%			(0.000E+00)	47.335915		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**4.77218**		9.00000E-02	0.22381	0.22381	1.00 Sa	100%		4.444893		
				(1.631876)		(2.9326E-02)	(0.075467)	(0.075467)	(0.027096)			1.744497		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S7	FILTER	*STLE	GabWoBS	**H8M0K1AE**	**PCI/SA**		06/14/06 01:00	07/25/06 07:41			1	1.00 Sa	
536403,000494					,J6G030156-8 v4.8.24		FILTER			00.1				0.02119 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/25/2006 9:14:33 PM

0	07/25/06 08:56	ALPHA	18	5	GPC10C	1.5	N	N	3.8874E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00
			150	500				Y	(1.295E-02)	(0.000E+00)		8%			(0.000E+00)	47.192231	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**6.015224**		1.10000E-01	0.282966	0.282966	1.00 Sa	100%		3.064142		
				(1.685462)		(2.8636E-02)	(0.077637)	(0.077637)	(0.027096)			1.03871		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S7	FILTER	*STLE	GabWoBS	**H8M0Q1AE**	**PCI/SA**		06/14/06 01:00	07/25/06 07:41			1	1.00 Sa	
536403,000495					,J6G030156-9 v4.8.24		FILTER			00.1				0.020966 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 08:56	ALPHA	29	28	GPC10D	1.5	N	N	4.1432E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	47.695965		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**7.121472**		1.37333E-01	0.331468	0.331468	1.00 Sa	100%		5.59588		
				(2.073279)		(3.7428E-02)	(0.094641)	(0.094641)	(0.027097)			2.330897		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S7	FILTER	*STLE	GabWoBS	**H8M0V1AE**	**PCI/SA**		06/13/06 04:00	07/25/06 07:41			1	1.00 Sa	
536403,000496					,J6G030156-10 v4.8.24		FILTER			00.1				0.020974 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 08:56	ALPHA	16	20	GPC10E	1.5	N	N	3.8614E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.143E-02)	(0.000E+00)		8%			(0.000E+00)	47.678929		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**3.707975**		6.66667E-02	0.172649	0.172649	1.00 Sa	100%		5.228292		
				(1.609918)		(2.8127E-02)	(0.074314)	(0.074314)	(0.027097)			2.11297		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S7	FILTER	*STLE	GabWoBS	**H8M051AE**	**PCI/SA**		06/13/06 14:00	07/25/06 10:25			1	1.00 Sa	
536403,000497					,J6G030156-11 v4.8.24		FILTER			00.1				0.021172 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 11:40	ALPHA	19	21	GPC10A	1.5	N	N	3.9619E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	47.232362		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**4.546665**		8.46667E-02	0.213701	0.213701	1.00 Sa	100%		5.148617		
				(1.703304)		(3.0470E-02)	(0.07913)	(0.07913)	(0.027096)			2.090453		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/25/2006 9:14:33 PM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S7	FILTER	*STLE	GabWoBS	**H8M081AE**	**PCI/SA**		06/13/06 12:00	07/25/06 10:25			1	1.00 Sa	
536403,000498					,J6G030156-12 v4.8.24		FILTER			00.1				0.021074 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 11:40	ALPHA	17	15	GPC10B	1.5	N	N	4.0213E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.350E-02)	(0.000E+00)		8%			(0.000E+00)	47.452837		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**4.4296**		8.33333E-02	0.207231	0.207231	1.00 Sa	100%		4.455872		
				(1.586026)		(2.8558E-02)	(0.073258)	(0.073258)	(0.027096)			1.748806		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S7	FILTER	*STLE	GabWoBS	**H8M1C1AE**	**PCI/SA**		06/13/06 13:00	07/25/06 10:25			1	1.00 Sa	
536403,000499					,J6G030156-13 v4.8.24		FILTER			00.1				0.0205 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 11:40	ALPHA	9	5	GPC10C	1.5	N	N	3.8874E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.295E-02)	(0.000E+00)		8%			(0.000E+00)	48.780792		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**2.82623**		5.00000E-02	0.128621	0.128621	1.00 Sa	100%		3.167286		
				(1.194874)		(2.0494E-02)	(0.053884)	(0.053884)	(0.027097)			1.073675		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S7	FILTER	*STLE	GabWoBS	**H8M1E1AE**	**PCI/SA**		06/13/06 09:00	07/25/06 10:25			1	1.00 Sa	
536403,000500					,J6G030156-14 v4.8.24		FILTER			00.1				0.021371 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 11:40	ALPHA	8	28	GPC10D	1.5	N	N	4.1432E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.205E-02)	(0.000E+00)		8%			(0.000E+00)	46.793464		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**-0.135664**	**U4**	-2.66667E-03	-0.006436	-0.006436	1.00 Sa	100%		5.489995		
				(1.100142)		(2.1623E-02)	(0.052192)	(0.052192)	(0.027096)			2.286792		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S7	FILTER	*STLE	GabWoBS	**H8M1G1AE**	**PCI/SA**		06/13/06 00:00	07/25/06 10:25			1	1.00 Sa	
536403,000501					,J6G030156-15 v4.8.24		FILTER			00.1				0.020787 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 11:40	ALPHA	5	20	GPC10E	1.5	N	N	3.8614E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.143E-02)	(0.000E+00)		8%			(0.000E+00)	48.107395		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191216

Alpha Beta, Alpha by GPC-Am , Calculated Results

7/25/2006 9:14:33 PM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**-0.37413**	**U4**	-6.66667E-03	-0.017265	-0.017265	1.00 Sa	100%		5.275276		
				(0.976364)		(1.7385E-02)	(0.045045)	(0.045045)	(0.027096)			2.131958		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S7	FILTER	*STLE	GabWoBS	**H8W1R1AA**	**PCI/SA**	**B**	06/12/06 14:25	07/25/06 13:08			1	1.00 Sa	
0,INTRA-LAB BLANK					,J6G100000-216		FILTER			00.1				1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 14:23	ALPHA	7	21	GPC10A	1.5	N	N	3.9619E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.368E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**0.005306**	**U4**	4.66667E-03	0.011779	0.011779	1.00 Sa	100%		0.109006		
				(0.022606)		(1.9877E-02)	(0.050182)	(0.050182)	(0.017321)			0.044259		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	S7	FILTER	*STLE	GabWoBS	**H8W1R1AC**	**PCI/SA**	**S**	06/12/06 14:25	07/25/06 13:08		ASC0395	1	1.00 Sa	
0,INTRA-LAB CHECK					,J6G100000-216		FILTER			00.1		ASC0395 Alq		1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/25/06 14:23	ALPHA	351	15	GPC10B	1.5	N	N	4.0213E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.350E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	ALPHA	R	**2.58759**		2.31000E+00	5.744456	5.744456	1.00 Sa	100%	109%	0.093901		
				(0.297985)		(1.2514E-01)	(0.587556)	(0.587556)	(0.017321)			0.036854		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.24

STL Richland

7/14/2006 11:33:19 AM

Sample Preparation/Analysis

Balance Id:1120373922

BA Gross Alpha PrpRC5016/5014
S7 Gross Alpha by GPC using Am-241 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191216 pCi/sampl
SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,HansenM

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:

Approved By _____ Date: _____

UST Number: H8MXT1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H8MXT1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4262

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00026	00000	0150	00000	1000	24-JUL-2006 20:56:40.76

Bkg File: [quad10.bkgrnd]2006-07-23_1923.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00032	0500	0.06	00000	1000	23-JUL-2006 19:23:23.11

UST Number: H8MXV1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H8MXV1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4259

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	24-JUL-2006 20:56:40.76

Bkg File: [quad10.bkgrnd]2006-07-23_1923.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00013	0500	0.03	00000	1000	23-JUL-2006 19:23:23.11

UST Number: H8MXW1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H8MXW1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4268

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00016	00000	0150	00000	1000	24-JUL-2006 20:56:40.76

Bkg File: [quad10.bkgrnd]2006-07-23_1923.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00011	0500	0.02	00000	1000	23-JUL-2006 19:23:23.11

UST Number: H8MXX1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H8MXX1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4262

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00020	00000	0150	00000	1000	24-JUL-2006 20:56:40.76

Bkg File: [quad10.bkgrnd]2006-07-23_1923.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00019	0500	0.04	00000	1000	23-JUL-2006 19:23:23.11

UST Number: H8MX31AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H8MX31AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4257

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00025	00000	0150	00000	1000	24-JUL-2006 20:56:40.76

Bkg File: [quad10.bkgrnd]2006-07-23_1923.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00010	0500	0.02	00000	1000	23-JUL-2006 19:23:23.11

UST Number: H8MX61AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H8MX61AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4263

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00015	00000	0150	00000	1000	25-JUL-2006 08:56:57.38

Bkg File: [quad10.bkgrnd]2006-07-25_0539.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00021	0500	0.04	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8MX81AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H8MX81AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4260

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00018	00000	0150	00000	1000	25-JUL-2006 08:56:57.38

Bkg File: [quad10.bkgrnd]2006-07-25_0539.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M0K1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H8M0K1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4269

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00018	00000	0150	00000	1000	25-JUL-2006 08:56:57.38

Bkg File: [quad10.bkgrnd]2006-07-25_0539.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00005	0500	0.01	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M0Q1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H8M0Q1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4263

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00029	00000	0150	00000	1000	25-JUL-2006 08:56:57.38

Bkg File: [quad10.bkgrnd]2006-07-25_0539.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00028	0500	0.06	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M0V1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H8M0V1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4258

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00016	00000	0150	00000	1000	25-JUL-2006 08:56:57.38

Bkg File: [quad10.bkgrnd]2006-07-25_0539.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M051AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H8M051AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4263

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00019	00000	0150	00000	1000	25-JUL-2006 11:40:03.95

Bkg File: [quad10.bkgrnd]2006-07-25_0539.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00021	0500	0.04	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M081AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H8M081AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4260

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00017	00000	0150	00000	1000	25-JUL-2006 11:40:03.95

Bkg File: [quad10.bkgrnd]2006-07-25_0539.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M1C1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-C File: [quad10.sample.C]H8M1C1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.C_15;4269

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00009	00000	0150	00000	1000	25-JUL-2006 11:40:03.95

Bkg File: [quad10.bkgrnd]2006-07-25_0539.C_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00005	0500	0.01	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M1E1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-D File: [quad10.sample.D]H8M1E1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.D_15;4263

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00008	00000	0150	00000	1000	25-JUL-2006 11:40:03.95

Bkg File: [quad10.bkgrnd]2006-07-25_0539.D_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00028	0500	0.06	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8M1G1AE Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-E File: [quad10.sample.E]H8M1G1AE.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.E_15;4258

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00005	00000	0150	00000	1000	25-JUL-2006 11:40:03.95

Bkg File: [quad10.bkgrnd]2006-07-25_0539.E_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00020	0500	0.04	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8W1R1AA Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-A File: [quad10.sample.A]H8W1R1AA.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.A_15;4263

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00007	00000	0150	00000	1000	25-JUL-2006 14:23:36.65

Bkg File: [quad10.bkgrnd]2006-07-25_0539.A_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00021	0500	0.04	00000	1000	25-JUL-2006 05:39:32.21

UST Number: H8W1R1AC Isotope: 112 (QREPORT Rev 11-OCT-98)

Detector: 10-B File: [quad10.sample.B]H8W1R1AC.112
Dish Size: 15 Bkg File: $DISK1:[QUAD10.BKGRND]CURRENT.B_15;4260

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00351	00000	0150	00000	1000	25-JUL-2006 14:23:36.65

Bkg File: [quad10.bkgrnd]2006-07-25_0539.B_15 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00015	0500	0.03	00000	1000	25-JUL-2006 05:39:32.21

BETA

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/25/2006 3:51:57 PM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191218; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix: 32052; FILTER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?			✓
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?		✓	
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?			✓
4.4 Were spectra reviewed/meet contractual requirements?			✓
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
See NCM. 10-083841

First Level Review Pam Anderson **Date** 7-25-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6191218

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?		✓	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See NCM

Second Level Review: Sherryl A Adam Date: 7-26-06

STL RICHLAND

7/14/2006 11:33:19 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191218 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Geo

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer / Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8MXT-1-AF J6G030156-1-SAMP 06/12/2006 14:25	0.833g	502.16g	51.26g,in	0.085g	0.4		31A	2052	7/21/06 DD	
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
2 H8MXV-1-AF J6G030156-2-SAMP 06/12/2006 15:45	0.833g	500.50g	50.26g,in	0.0836g	0.8		31B			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
3 H8MXW-1-AF J6G030156-3-SAMP 06/12/2006 16:45	0.833g	511.31g	51.81g,in	0.0844g	0.4		31C			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
4 H8MXX-1-AF J6G030156-4-SAMP 06/12/2006 17:50	0.833g	500.07g	50.79g,in	0.0846g	1.5		31D			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
5 H8MX3-1-AF J6G030156-5-SAMP 06/12/2006 18:35	0.833g	503.86g	50.14g,in	0.0829g	0.3		32A			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
6 H8MX6-1-AF J6G030156-6-SAMP 06/12/2006 19:10	0.833g	504.67g	51.15g,in	0.0844g	1.1		32B			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
7 H8MX8-1-AF J6G030156-7-SAMP 06/12/2006 14:35	0.833g	501.56g	50.81g,in	0.0844g	0.2		32C			
		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 11:33:20 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191218 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Geo

Prep Tech: HansenM

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 H8M0K-1-AF J6G030156-8-SAMP 06/12/2006 00:49	0.833g	501.61g	50.59g,in	0.084g	2.1		32D	2052	7/24/06 [illegible]	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
9 H8M0Q-1-AF J6G030156-9-SAMP 06/12/2006 00:49	0.833g	500.21g	50.58g,in	0.0842g	1.1		26A	0917	7/25/06	
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
10 H8M0V-1-AF J6G030156-10-SAMP 06/12/2006 00:28	0.833g	501.62g	51.11g,in	0.0849g	1.5		26B			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
11 H8M05-1-AF J6G030156-11-SAMP 06/12/2006 00:38	0.833g	502.43g	51.21g,in	0.0849g	2.3		26C			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
12 H8M08-1-AF J6G030156-12-SAMP 06/12/2006 00:36	0.833g	504.38g	52.71g,in	0.0871g	3.0		7/25/06 ~~26D~~ 27A			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
13 H8M1C-1-AF J6G030156-13-SAMP 06/12/2006 00:37	0.833g	507.93g	50.53g,in	0.0829g	1.8		27C			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14 H8M1E-1-AF J6G030156-14-SAMP 06/12/2006 00:33	0.833g	500.10g	50.94g,in	0.0848g	0.2		27D			
		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 11:33:20 AM

Sample Preparation/Analysis

Balance Id:1120373922

536403, Brown and Caldwell , Brown & Caldwell

BD Gross Beta PrpRC5016/5014
S8 Gross Beta by GPC using Sr/Y-90 curve
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191218 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: HansenM

Geo

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
15H8M1G-1-AF J6G030156-15-SAMP	0.833g	507.33g	50.72g,in	0.0833g	0.1	3	1A	0917	7/25/Up	
06/12/2006 00:24	AmtRec: FILTER	#Containers: 1					Scr:	Alpha:		Beta:
16H8W1T-1-AA-B J6G100000-218-BLK			1.00sa,in	1.00sa	0.2	3	1B			
06/12/2006 14:25	AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:
17H8W1T-1-AC-C J6G100000-218-LCS			1.00sa,in	1.00sa	BESB2836 06/15/06,pd 12/28/05,r 0.2	3	1C			
06/12/2006 14:25	AmtRec:	#Containers: 1					Scr:	Alpha:		Beta:

Comments:

```
All Clients for Batch:
   536403, Brown and Caldwell                    Brown & Caldwell          ,  SA , 63174

H8MXT1AF-SAMP Constituent List:
  BETA        RDL:5          pCi/sam   LCL:        UCL:        RPD:
H8W1T1AA-BLK:
  BETA        RDL:5          pCi/sam   LCL:        UCL:        RPD:
H8W1T1AC-LCS:
  Cs-137      RDL:           pCi/sam   LCL:70      UCL:130     RPD:20      Cs-137DA    RDL:          pCi/sam   LCL:70      UCL:130     RPD:20
  Sr-90       RDL:           pCi/sam   LCL:70      UCL:130     RPD:20
H8MXT1AF-SAMP Calc Info:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
H8W1T1AA-BLK:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
H8W1T1AC-LCS:
    Uncert Level (#s).: 2     Decay to SaDt: Y     Blk Subt.: N     Sci.Not.: Y     ODRs: B
```

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08384**
NCM Initiated By: Pam Anderson
Date Opened: 07/25/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Beta by GPC-Sr/Y
Lot #'s (Sample #'s): J6G030156 (8,9),
QC Batches: 6191218

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	07/25/2006	Samples H8M0K1AF and H8M0Q1AF do not meet CRDL, but their results are >MDA>CRDL.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	07/25/2006	na

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 7/25/2006

7/25/2006 3:40:54 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/25/2005, 7/30/2006, Batch: '6191218', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191218						
AC		**CalcC**	**HansenM**	7/14/2006 1:33:35 PM		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/14/2006 1:33:35 PM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/14/2006 1:34:07 PM	RICH-RC-5016 REVISION 5
SC			DAWKINSO	InCnt1	7/24/2006 6:17:43 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	7/25/2006 10:01:44 AM	RICH-RD-0003 REVISION 4
AC			**HansenM**	7/14/2006 1:34:07 PM		
AC			**HansenM**	7/24/2006 5:51:42 PM		
AC			**DAWKINSO**	7/24/2006 6:17:43 PM		
AC			**BlackCL**	7/25/2006 10:01:44		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 5

ICOCFractions v4.8.18

7/25/2006 3:40:54 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32052	**9H8M0510**			**J6G03015611**	000497	FILTER	7/3/2006 10:00:00	6/13/2006 2:00:00 PM				
BETA	BDS8	0		7/25/2006 8:04:00 AM	**3.1988E+01**	2.058E+00	3.015E+00	5.268E+00	PCI/SA	1.0	1.0E+0	3.49E-2
RA-226	BXTE	0		7/22/2006 12:09:00 PM	**7.0504E-03**	1.394E-01	1.394E-01	5.897E-01	PCI/SA	0.961	1.0E+0	2.489E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**5.7793E-02**	5.779E-02	5.801E-02	2.311E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.9555E-01**	1.045E-01	1.076E-01	1.001E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**9.236E-02**	6.66E-02	6.709E-02	2.216E-01	PCI/SA	1.093	1.0E+0	3.315E-2
U-234	7YSR	0		7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-235	7YSR	0		7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-238	7YSR	0		7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
32052	**9H8M0810**			**J6G03015612**	000498	FILTER	7/3/2006 10:00:00	6/13/2006 12:00:00 PM				
BETA	BDS8	0		7/25/2006 8:04:03 AM	**3.3794E+01**	2.001E+00	3.046E+00	4.961E+00	PCI/SA	1.0	1.0E+0	3.705E-2
RA-226	BXTE	0		7/22/2006 12:11:01 PM	**2.3986E-01**	1.884E-01	1.901E-01	6.618E-01	PCI/SA	0.929	1.0E+0	2.495E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.7058E-01**	9.848E-02	9.962E-02	3.186E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**4.1797E-01**	1.272E-01	1.324E-01	2.18E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**6.0639E-07**	4.451E-02	4.451E-02	2.675E-01	PCI/SA	1.035	1.0E+0	3.514E-2
U-234	7YSR	0		7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-235	7YSR	0		7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-238	7YSR	0		7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA	1.037	1.0E+0	3.198E-2
32052	**9H8M0K10**			**J6G0301568**	000494	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
BETA	BDS8	0		7/24/2006 7:37:55 PM	**3.6285E+01**	2.191E+00	3.392E+00	5.671E+00	PCI/SA	1.0	1.0E+0	3.401E-2
RA-226	BXTE	0		7/22/2006 11:40:01	**5.1423E-01**	2.699E-01	2.748E-01	8.78E-01	PCI/SA	0.913	1.0E+0	2.543E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.8768E-06**	7.954E-02	7.954E-02	4.036E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**4.1367E-01**	1.259E-01	1.311E-01	2.158E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**6.0016E-07**	4.406E-02	4.406E-02	2.648E-01	PCI/SA	1.022	1.0E+0	3.371E-2
U-234	7YSR	0		7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR	0		7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR	0		7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32052	**9H8M0Q10**			**J6G0301569**	000495	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
BETA	BDS8	0		7/25/2006 8:04:00 AM	**3.4647E+01**	2.104E+00	3.284E+00	5.559E+00	PCI/SA	1.0	1.0E+0	3.423E-2
RA-226	BXTE	0		7/22/2006 12:11:00 PM	**2.2471E-01**	1.88E-01	1.893E-01	6.636E-01	PCI/SA	0.994	1.0E+0	2.516E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.6142E-01**	9.508E-02	9.619E-02	2.766E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.6546E-01**	1.084E-01	1.11E-01	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**4.4243E-02**	4.424E-02	4.442E-02	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
U-234	7YSR	0		7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-235	7YSR	0		7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-238	7YSR	0		7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA	0.987	1.0E+0	3.258E-2
32052	**9H8M0V10**			**J6G03015610**	000496	FILTER	7/3/2006 10:00:00	6/13/2006 4:00:00 AM				
BETA	BDS8	0		7/25/2006 8:04:00 AM	**2.6174E+01**	1.937E+00	2.668E+00	5.432E+00	PCI/SA	1.0	1.0E+0	3.487E-2
RA-226	BXTE	0		7/22/2006 12:12:00 PM	**6.1129E-01**	3.01E-01	3.071E-01	9.678E-01	PCI/SA	0.977	1.0E+0	2.504E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**9.0006E-02**	6.364E-02	6.415E-02	1.22E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**1.7254E-01**	8.627E-02	8.764E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**4.3134E-02**	4.313E-02	4.331E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
U-234	7YSR	0		7/18/2006 11:45:19 PM	**-1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-235	7YSR	0		7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-238	7YSR	0		7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
32052	**9H8M1C10**			**J6G03015613**	000499	FILTER	7/3/2006 10:00:00	6/13/2006 1:00:00 PM				
BETA	BDS8	0		7/25/2006 8:04:03 AM	**3.5671E+01**	2.062E+00	3.183E+00	5.008E+00	PCI/SA	1.0	1.0E+0	3.287E-2
RA-226	BXTE	0		7/22/2006 12:12:00 PM	**2.8971E-01**	1.836E-01	1.863E-01	6.209E-01	PCI/SA	0.987	1.0E+0	2.473E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**6.4329E-02**	6.433E-02	6.458E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**2.4672E-01**	1.007E-01	1.031E-01	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**0.0E+00**	0.0E+00	5.036E-02	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
U-234	7YSR	0		7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA	0.936	1.0E+0	3.152E-2

6191218, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AF=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AF=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AF=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AF=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
U-235	7YSR	0		7/18/2006 11:45:58 PM	**2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA		0.936	1.0E+0	3.152E-2
U-238	7YSR	0		7/18/2006 11:45:58 PM	**5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA		0.936	1.0E+0	3.152E-2
32052	**9H8M1E10**			**J6G03015614**	000500	FILTER	7/3/2006 10:00:00	6/13/2006 9:00:00 AM					
BETA	BDS8	0		7/25/2006 8:04:03 AM	**4.7454E-02**	1.168E+00	1.168E+00	4.973E+00	PCI/SA		1.0	1.0E+0	3.485E-2
RA-226	BXTE	0		7/22/2006 12:10:00 PM	**2.478E-02**	1.863E-01	1.863E-01	7.319E-01	PCI/SA		0.956	1.0E+0	2.591E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**1.8471E-02**	4.13E-02	4.133E-02	2.216E-01	PCI/SA		0.961	1.0E+0	3.455E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.3122E-02**	5.312E-02	5.333E-02	2.124E-01	PCI/SA		0.961	1.0E+0	3.455E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**-3.5414E-02**	2.504E-02	2.523E-02	2.607E-01	PCI/SA		0.961	1.0E+0	3.455E-2
U-234	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-235	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-238	7YSR	0		7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA		0.973	1.0E+0	3.256E-2
32052	**9H8M1G10**			**J6G03015615**	000501	FILTER	7/3/2006 10:00:00	6/13/2006					
BETA	BDS8	0		7/25/2006 8:03:59 AM	**2.1848E+00**	1.302E+00	1.311E+00	5.245E+00	PCI/SA		1.0	1.0E+0	3.328E-2
RA-226	BXTE	0		7/22/2006 12:13:00 PM	**-1.774E-02**	1.291E-01	1.292E-01	5.48E-01	PCI/SA		1.023	1.0E+0	2.487E-1
TH-228	9NS1	0		7/19/2006 8:36:46 PM	**4.7234E-02**	7.468E-02	7.48E-02	3.476E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-230	9NS1	0		7/19/2006 8:36:46 PM	**4.9791E-01**	1.501E-01	1.568E-01	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-232	9NS1	0		7/19/2006 8:36:46 PM	**0.0E+00**	0.0E+00	5.544E-02	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
U-234	7YSR	0		7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-235	7YSR	0		7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-238	7YSR	0		7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA		1.01	1.0E+0	3.18E-2
32052	**9H8MX310**			**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00	6/12/2006 6:35:00 PM					
BETA	BDS8	0		7/24/2006 7:37:55 PM	**2.4778E+01**	1.895E+00	2.546E+00	5.23E+00	PCI/SA		1.0	1.0E+0	3.289E-2
RA-226	BXTE	0		7/22/2006 11:42:00	**-2.4609E-01**	2.871E-01	2.881E-01	1.156E+00	PCI/SA		0.951	1.0E+0	2.508E-1
TH-228	9NS1	0		7/19/2006 10:14:41	**9.0145E-02**	8.433E-02	8.471E-02	3.318E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-230	9NS1	0		7/19/2006 10:14:41	**4.3207E-01**	1.366E-01	1.42E-01	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-232	9NS1	0		7/19/2006 10:14:41	**4.3207E-02**	4.321E-02	4.338E-02	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
U-234	7YSR	0		7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-235	7YSR	0		7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-238	7YSR	0		7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
32052	**9H8MX610**			**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00	6/12/2006 7:10:00 PM					
BETA	BDS8	0		7/24/2006 7:37:55 PM	**2.5276E+01**	1.869E+00	2.551E+00	5.127E+00	PCI/SA		1.0	1.0E+0	3.443E-2
RA-226	BXTE	0		7/22/2006 11:40:01	**-2.9157E-01**	2.781E-01	2.796E-01	1.241E+00	PCI/SA		0.827	1.0E+0	2.498E-1
TH-228	9NS1	0		7/19/2006 10:14:43	**-3.742E-05**	2.778E-01	2.778E-01	1.489E+00	PCI/SA		0.288	1.0E+0	3.449E-2
TH-230	9NS1	0		7/19/2006 10:14:43	**6.9177E-01**	3.522E-01	3.611E-01	9.221E-01	PCI/SA		0.288	1.0E+0	3.449E-2
TH-232	9NS1	0		7/19/2006 10:14:43	**0.0E+00**	0.0E+00	1.883E-01	4.166E-01	PCI/SA		0.288	1.0E+0	3.449E-2
U-234	7YSR	0		7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-235	7YSR	0		7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-238	7YSR	0		7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA		0.83	1.0E+0	3.244E-2
32052	**9H8MX810**			**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00	6/12/2006 2:35:00 PM					
BETA	BDS8	0		7/24/2006 7:37:55 PM	**2.7055E+01**	1.867E+00	3.059E+00	4.895E+00	PCI/SA		1.0	1.0E+0	3.439E-2
RA-226	BXTE	0		7/22/2006 11:41:00	**6.9133E-01**	2.808E-01	2.895E-01	8.599E-01	PCI/SA		0.966	1.0E+0	2.514E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**5.4185E-02**	1.271E-01	1.272E-01	5.832E-01	PCI/SA		0.701	1.0E+0	3.517E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.969E-01**	1.817E-01	1.899E-01	3.113E-01	PCI/SA		0.701	1.0E+0	3.517E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**5.1904E-02**	5.19E-02	5.213E-02	1.407E-01	PCI/SA		0.701	1.0E+0	3.517E-2
U-234	7YSR	0		7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-235	7YSR	0		7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-238	7YSR	0		7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
32052	**9H8MXT10**			**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.6315E+01**	1.873E+00	2.64E+00	5.044E+00	PCI/SA		1.0	1.0E+0	3.503E-2
RA-226	BXTE	0		7/22/2006 11:42:00	**-4.6495E-01**	2.373E-01	2.421E-01	1.035E+00	PCI/SA		0.951	1.0E+0	2.535E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**2.1989E-02**	4.917E-02	4.921E-02	2.638E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
U-234	7YSR	0		7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2

6191218, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AF=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AF=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AF=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AF=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / MDA	Units	Expected	Yield	Volumes	
U-235	7YSR	0		7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2
U-238	7YSR	0		7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA		1.043	1.0E+0	3.244E-2
32052	**9H8MXV10**			**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00	6/12/2006 3:45:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.1323E+01**	1.743E+00	2.511E+00	4.916E+00	PCI/SA		1.0	1.0E+0	3.365E-2
RA-226	BXTE	0		7/22/2006 11:40:00	**2.1993E-01**	2.47E-01	2.481E-01	8.946E-01	PCI/SA		1.075	1.0E+0	2.544E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**1.7101E-02**	3.824E-02	3.827E-02	2.051E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**2.7863E-01**	9.97E-02	1.026E-01	1.966E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**-3.2779E-02**	2.318E-02	2.335E-02	2.413E-01	PCI/SA		1.077	1.0E+0	3.779E-2
U-234	7YSR	0		7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-235	7YSR	0		7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-238	7YSR	0		7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
32052	**9H8MXW10**			**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.9691E+01**	1.954E+00	2.81E+00	5.111E+00	PCI/SA		1.0	1.0E+0	3.441E-2
RA-226	BXTE	0		7/22/2006 11:39:00	**1.3365E+00**	3.131E-01	3.436E-01	7.782E-01	PCI/SA		0.945	1.0E+0	2.52E-1
TH-228	9NS1	0		7/19/2006 10:14:26	**-9.5285E-02**	4.261E-02	4.343E-02	3.835E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-230	9NS1	0		7/19/2006 10:14:26	**4.9309E-01**	1.379E-01	1.446E-01	2.191E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-232	9NS1	0		7/19/2006 10:14:26	**3.6525E-02**	3.653E-02	3.667E-02	9.898E-02	PCI/SA		0.899	1.0E+0	3.344E-2
U-234	7YSR	0		7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-235	7YSR	0		7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-238	7YSR	0		7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA		0.853	1.0E+0	3.157E-2
32052	**9H8MXX10**			**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**3.3206E+01**	2.045E+00	3.092E+00	5.181E+00	PCI/SA		1.0	1.0E+0	3.46E-2
RA-226	BXTE	0		7/22/2006 11:41:00	**5.698E-01**	2.615E-01	2.69E-01	8.269E-01	PCI/SA		0.857	1.0E+0	2.514E-1
TH-228	9NS1	0		7/19/2006 10:14:33	**1.1341E-01**	9.889E-02	9.941E-02	3.814E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-230	9NS1	0		7/19/2006 10:14:33	**4.3487E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-232	9NS1	0		7/19/2006 10:14:33	**0.0E+00**	0.0E+00	5.326E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
32052	**H8W1T1AB**			**J6G100000218**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
BETA	BDS8	0	B	7/25/2006 8:03:59 AM	**1.1554E-01**	9.659E-02	9.705E-02	3.954E-01	PCI/SA		1.0	1.0E+0	1.0E+0
32052	**H8W1T1CS**			**J6G100000218**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
BETA	BDS8	0	S	7/25/2006 8:03:59 AM	**4.4347E+00**	2.006E-01	3.503E-01	4.31E-01	PCI/SA	4.5697E+00	1.0	1.0E+0	1.0E+0

6191218, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AF=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AF=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AF=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AF=> ,

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Results Summary Report

7/25/2006 9:58:13 AM

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Beta by GPC-Sr/Y				Richland Standard Gross Alpha/Beta Wo Blk Subt										
Calc	S8	FILTER	**H8MXT1AF**	BETA	**2.63E+01**	**(2.64E+00)**		PCI/SA	R	2.41E+00	5.04E+00		100%	
Calc	S8	FILTER	**H8MXV1AF**	BETA	**2.13E+01**	**(2.51E+00)**		PCI/SA	R	2.35E+00	4.92E+00		100%	
Calc	S8	FILTER	**H8MXW1AF**	BETA	**2.97E+01**	**(2.81E+00)**		PCI/SA	R	2.45E+00	5.11E+00		100%	
Calc	S8	FILTER	**H8MXX1AF**	BETA	**3.32E+01**	**(3.09E+00)**		PCI/SA	R	2.48E+00	5.18E+00		100%	
Calc	S8	FILTER	**H8MX31AF**	BETA	**2.48E+01**	**(2.55E+00)**		PCI/SA	R	2.50E+00	5.23E+00		100%	
Calc	S8	FILTER	**H8MX61AF**	BETA	**2.53E+01**	**(2.55E+00)**		PCI/SA	R	2.46E+00	5.13E+00		100%	
Calc	S8	FILTER	**H8MX81AF**	BETA	**2.71E+01**	**(3.06E+00)**		PCI/SA	R	2.34E+00	4.90E+00		100%	
Calc	S8	FILTER	**H8M0K1AF**	BETA	**3.63E+01**	**(3.39E+00)**		PCI/SA	R	2.72E+00	5.67E+00	*	100%	
Calc	S8	FILTER	**H8M0Q1AF**	BETA	**3.46E+01**	**(3.28E+00)**		PCI/SA	R	2.68E+00	5.56E+00	*	100%	
Calc	S8	FILTER	**H8M0V1AF**	BETA	**2.62E+01**	**(2.67E+00)**		PCI/SA	R	2.61E+00	5.43E+00	*	100%	
Calc	S8	FILTER	**H8M051AF**	BETA	**3.20E+01**	**(3.01E+00)**		PCI/SA	R	2.52E+00	5.27E+00		100%	
Calc	S8	FILTER	**H8M081AF**	BETA	**3.38E+01**	**(3.05E+00)**		PCI/SA	R	2.38E+00	4.96E+00		100%	
Calc	S8	FILTER	**H8M1C1AF**	BETA	**3.57E+01**	**(3.18E+00)**		PCI/SA	R	2.40E+00	5.01E+00		100%	
Calc	S8	FILTER	**H8M1E1AF**	BETA	**4.75E-02**	**(1.17E+00)**	**U4**	PCI/SA	R	2.38E+00	4.97E+00		100%	
Calc	S8	FILTER	**H8M1G1AF**	BETA	**2.18E+00**	**(1.31E+00)**		PCI/SA	R	2.51E+00	5.25E+00		100%	
Calc	S8	FILTER	**H8W1T1AA**	BETA	**1.16E-01**	**(9.71E-02)**	**U4**	PCI/SA	R	1.89E-01	3.95E-01	**B**	100%	
Calc	S8	FILTER	**H8W1T1AC**	BETA	**4.43E+00**	**(3.50E-01)**		PCI/SA	R	2.06E-01	4.31E-01	**S**	100%	97%

* Results > MDA > CRDL

P Anderson
7-25-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Page 1

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/25/2006 9:58:14 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	S8	FILTER	*STLE	GabWoBS	**H8MXT1AF**	**PCI/SA**		06/12/06 14:25	07/24/06 19:37			1	1.00 SA	
536403,P-0668					,J6G030156-1 v4.8.24		FILTER			00.4				0.085032 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	496	559	GPC31A	1.5	N	N	4.4060E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.296E-02)	(0.000E+00)		5%			(0.000E+00)	11.760303		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**26.314762**		2.18867E+00	4.96746	4.96746	1.00 SA	100%		5.043894		
				(2.640161)		(1.5582E-01)	(0.456186)	(0.456186)	(0.027064)			2.414771		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	S8	FILTER	*STLE	GabWoBS	**H8MXV1AF**	**PCI/SA**		06/12/06 15:45	07/24/06 19:37			1	1.00 SA	
536403,P-0669					,J6G030156-2 v4.8.24		FILTER			00.8				0.08365 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	424	528	GPC31B	1.5	N	N	4.4716E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.469E-02)	(0.000E+00)		5%			(0.000E+00)	11.954643		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**21.323398**		1.77067E+00	3.9598	3.9598	1.00 SA	100%		4.916065		
				(2.5108)		(1.4476E-01)	(0.437952)	(0.437952)	(0.027064)			2.350644		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	S8	FILTER	*STLE	GabWoBS	**H8MXW1AF**	**PCI/SA**		06/12/06 16:45	07/24/06 19:37			1	1.00 SA	
536403,P-0670					,J6G030156-3 v4.8.24		FILTER			00.4				0.084406 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	543	575	GPC31C	1.5	N	N	4.4396E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.874E-03)	(0.000E+00)		5%			(0.000E+00)	11.847472		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**29.691271**		2.47000E+00	5.563608	5.563608	1.00 SA	100%		5.111447		
				(2.810459)		(1.6258E-01)	(0.476243)	(0.476243)	(0.027064)			2.44859		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	S8	FILTER	*STLE	GabWoBS	**H8MXX1AF**	**PCI/SA**		06/12/06 17:50	07/24/06 19:37			1	1.00 SA	
536403,P-0671					,J6G030156-4 v4.8.24		FILTER			01.5				0.084604 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	580	573	GPC31D	1.5	N	N	4.3623E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.191E-02)	(0.000E+00)		5%			(0.000E+00)	11.819731		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/25/2006 9:58:14 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**33.205659**		2.72067E+00	6.236744	6.236744	1.00 SA	100%		5.181128		
				(3.09186)		(1.6754E-01)	(0.523198)	(0.523198)	(0.027064)			2.481786		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	S8	FILTER	*STLE	GabWoBS	**H8MX31AF**	**PCI/SA**		06/12/06 18:35	07/24/06 19:37			1	1.00 SA	
536403,P-0672					,J6G030156-5 v4.8.24		FILTER			00.3				0.082893 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	458	545	GPC32A	1.5	N	N	4.3059E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.036E-02)	(0.000E+00)		5%			(0.000E+00)	12.063701		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**24.777606**		1.96333E+00	4.559657	4.559657	1.00 SA	100%		5.23049		
				(2.54585)		(1.5012E-01)	(0.430753)	(0.430753)	(0.027064)			2.502729		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	S8	FILTER	*STLE	GabWoBS	**H8MX61AF**	**PCI/SA**		06/12/06 19:10	07/24/06 19:37			1	1.00 SA	
536403,P-0673					,J6G030156-6 v4.8.24		FILTER			01.1				0.084427 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	483	568	GPC32B	1.5	N	N	4.3990E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.069E-02)	(0.000E+00)		5%			(0.000E+00)	11.844503		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**25.276163**		2.08400E+00	4.737483	4.737483	1.00 SA	100%		5.127185		
				(2.551371)		(1.5407E-01)	(0.438221)	(0.438221)	(0.027064)			2.455488		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	S8	FILTER	*STLE	GabWoBS	**H8MX81AF**	**PCI/SA**		06/12/06 14:35	07/24/06 19:37			1	1.00 SA	
536403,P-0674					,J6G030156-7 v4.8.24		FILTER			00.2				0.084386 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/24/06 20:52	BETA	495	525	GPC32C	1.5	N	N	4.4392E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.769E-02)	(0.000E+00)		5%			(0.000E+00)	11.850282		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**27.055286**		2.25000E+00	5.06847	5.06847	1.00 SA	100%		4.895366		
				(3.059069)		(1.5524E-01)	(0.53524)	(0.53524)	(0.027064)			2.340451		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	S8	FILTER	*STLE	GabWoBS	**H8M0K1AF**	**PCI/SA**		06/14/06 01:00	07/24/06 19:37			1	1.00 SA	
536403,000494					,J6G030156-8 v4.8.24		FILTER			02.1				0.084012 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

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1	07/24/06 20:52	BETA	634	660	GPC32D	1.5	N	N	4.2951E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500				Y	(1.330E-02)	(0.000E+00)		5%			(0.000E+00)	11.903002		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**36.28479**		2.90667E+00	6.767395	6.767395	1.00 SA	100%		5.670855		
				(3.392043)		(1.7555E-01)	(0.570503)	(0.570503)	(0.027064)			2.724279		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	S8	FILTER	*STLE	GabWoBS	**H8M0Q1AF**	**PCI/SA**		06/14/06 01:00	07/25/06 08:04			1	1.00 SA	
536403,000495					,J6G030156-9 v4.8.24		FILTER			01.1				0.084231 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	660	722	GPC26A	1.5	N	N	4.5627E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.557E-02)	(0.000E+00)		5%			(0.000E+00)	11.872127		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**34.646534**		2.95600E+00	6.478652	6.478652	1.00 SA	100%		5.559199		
				(3.28409)		(1.7950E-01)	(0.555519)	(0.555519)	(0.027064)			2.675311		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	S8	FILTER	*STLE	GabWoBS	**H8M0V1AF**	**PCI/SA**		06/13/06 04:00	07/25/06 08:04			1	1.00 SA	
536403,000496					,J6G030156-10 v4.8.24		FILTER			01.5				0.084874 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	515	639	GPC26B	1.5	N	N	4.3704E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.221E-02)	(0.000E+00)		5%			(0.000E+00)	11.782134		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**26.173728**		2.15533E+00	4.931682	4.931682	1.00 SA	100%		5.43163		
				(2.667912)		(1.5951E-01)	(0.461513)	(0.461513)	(0.027064)			2.607665		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	S8	FILTER	*STLE	GabWoBS	**H8M051AF**	**PCI/SA**		06/13/06 14:00	07/25/06 08:04			1	1.00 SA	
536403,000497					,J6G030156-11 v4.8.24		FILTER			02.3				0.084903 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	541	545	GPC26C	1.5	N	N	4.1740E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.031E-02)	(0.000E+00)		5%			(0.000E+00)	11.778115		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**31.988345**		2.51667E+00	6.029335	6.029335	1.00 SA	100%		5.267969		
				(3.014903)		(1.6194E-01)	(0.513401)	(0.513401)	(0.027064)			2.520662		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/25/2006 9:58:14 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	S8	FILTER	*STLE	GabWoBS	**H8M081AF**	**PCI/SA**		06/13/06 12:00	07/25/06 08:04			1	1.00 SA	
536403,000498					,J6G030156-12 v4.8.24		FILTER			03.0				0.087052 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	601	566	GPC27A	1.5	N	N	4.4016E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.701E-03)	(0.000E+00)		5%			(0.000E+00)	11.48735		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**33.794137**		2.87467E+00	6.530928	6.530928	1.00 SA	100%		4.961195		
				(3.046073)		(1.7022E-01)	(0.526219)	(0.526219)	(0.027064)			2.375814		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	S8	FILTER	*STLE	GabWoBS	**H8M1C1AF**	**PCI/SA**		06/13/06 13:00	07/25/06 08:04			1	1.00 SA	
536403,000499					,J6G030156-13 v4.8.24		FILTER			01.8				0.082869 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	607	546	GPC27C	1.5	N	N	4.5024E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.959E-03)	(0.000E+00)		5%			(0.000E+00)	12.067285		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**35.671262**		2.95467E+00	6.562394	6.562394	1.00 SA	100%		5.00804		
				(3.182978)		(1.7077E-01)	(0.5221)	(0.5221)	(0.027064)			2.396385		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	S8	FILTER	*STLE	GabWoBS	**H8M1E1AF**	**PCI/SA**		06/13/06 09:00	07/25/06 08:04			1	1.00 SA	
536403,000500					,J6G030156-14 v4.8.24		FILTER			00.2				0.084849 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:19	BETA	168	558	GPC27D	1.5	N	N	4.4749E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.132E-02)	(0.000E+00)		5%			(0.000E+00)	11.785633		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**0.047454**	**U4**	4.00000E-03	0.008939	0.008939	1.00 SA	100%		4.972675		
				(1.168352)		(9.8482E-02)	(0.220076)	(0.220076)	(0.027064)			2.380583		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	S8	FILTER	*STLE	GabWoBS	**H8M1G1AF**	**PCI/SA**		06/13/06 00:00	07/25/06 08:03			1	1.00 SA	
536403,000501					,J6G030156-15 v4.8.24		FILTER			00.1				0.083279 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:18	BETA	201	581	GPC31A	1.5	N	N	4.4068E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(1.296E-02)	(0.000E+00)		5%			(0.000E+00)	12.007879		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191218

Alpha Beta, Beta by GPC-Sr/Y , Calculated Results

7/25/2006 9:58:14 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**2.184813**		1.78000E-01	0.403926	0.403926	1.00 SA	100%		5.245234		
				(1.31143)		(1.0610E-01)	(0.241906)	(0.241906)	(0.027064)			2.513232		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	S8	FILTER	*STLE	GabWoBS	**H8W1T1AA**	**PCI/SA**	**B**	06/12/06 14:25	07/25/06 08:03			1	1.00 SA	
0,INTRA-LAB BLANK					,J6G100000-218		FILTER			00.2				1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:18	BETA	163	486	GPC31B	1.5	N	N	4.4704E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(2.468E-02)	(0.000E+00)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**0.115541**	**U4**	1.14667E-01	0.256502	0.256502	1.00 SA	100%		0.395377		
				(0.097053)		(9.5856E-02)	(0.215274)	(0.215274)	(0.017321)			0.188698		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	S8	FILTER	*STLE	GabWoBS	**H8W1T1AC**	**PCI/SA**	**S**	06/12/06 14:25	07/25/06 08:03		BESB2836	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G100000-218		FILTER			00.2		BESB2836 Alq		1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/25/06 09:18	BETA	828	574	GPC31C	1.5	N	N	4.4408E-01	1.0000E+00	N	100%	N		1.0000E+00	4.5045E-01	1.0000E+00	
			150	500			Y		(9.876E-03)	(0.000E+00)		5%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	BETA	R	**4.434731**		4.37200E+00	9.845113	9.845113	1.00 SA	100%	97%	0.43096		
				(0.350315)		(1.9773E-01)	(0.698933)	(0.698933)	(0.017321)			0.20644		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.24
STL Richland

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:25.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MXT1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:25.00	496	150.00	559	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
5	11	4976	1492

Bkg Count Date/Time
23-JUL-2006 19:17:35.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:25.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MXV1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:25.00	424	150.00	528	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
3	11	4976	1492

Bkg Count Date/Time
23-JUL-2006 19:17:35.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:25.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MXW1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:25.00	543	150.00	575	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
7	9	4976	1492

Bkg Count Date/Time
23-JUL-2006 19:17:35.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:25.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MXX1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:25.00	580	150.00	573	500.00	31D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV	Bkg Count Date/Time
16	25	4976	1492	23-JUL-2006 19:17:35.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:55.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MX31AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:55.00	458	150.00	545	500.00	32A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
10	7	4714	1492

Bkg Count Date/Time
23-JUL-2006 19:18:21.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:55.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MX61AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:55.00	483	150.00	568	500.00	32B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	14	4714	1492

Bkg Count Date/Time
23-JUL-2006 19:18:21.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:55.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8MX81AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:55.00	495	150.00	525	500.00	32C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	10	4714	1492

Bkg Count Date/Time
23-JUL-2006 19:18:21.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
24-JUL-2006 20:52:55.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M0K1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
24-JUL-2006 20:52:55.00	634	150.00	660	500.00	32D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	12	4714	1492

Bkg Count Date/Time
23-JUL-2006 19:18:21.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M0Q1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:00.00	660	150.00	722	500.00	26A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
14	33	4868	1500

Bkg Count Date/Time
25-JUL-2006 05:35:27.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M0V1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:00.00	515	150.00	639	500.00	26B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
9	30	4868	1500

Bkg Count Date/Time
25-JUL-2006 05:35:27.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:00.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M051AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:00.00	541	150.00	545	500.00	26C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
8	18	4868	1500

Bkg Count Date/Time
25-JUL-2006 05:35:27.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:03.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M081AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:03.00	601	150.00	566	500.00	27A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
15	16	4889	1500

Bkg Count Date/Time
25-JUL-2006 05:35:31.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:03.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M1C1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:03.00	607	150.00	546	500.00	27C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
11	10	4889	1500

Bkg Count Date/Time
25-JUL-2006 05:35:31.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:19:03.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M1E1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:19:03.00	168	150.00	558	500.00	27D

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
4	22	4889	1500

Bkg Count Date/Time
25-JUL-2006 05:35:31.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:18:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8M1G1AF	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:18:59.00	201	150.00	581	500.00	31A

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
6	15	4928	1492

Bkg Count Date/Time
25-JUL-2006 05:33:57.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:18:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8W1T1AA	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:18:59.00	163	150.00	486	500.00	31B

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	16	4928	1492

Bkg Count Date/Time
25-JUL-2006 05:33:57.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

STL RICHLAND
Richland, WA

GPC Report
25-JUL-2006 09:18:59.00

LBPRINT - Rev#: 2.4

Sample ID	Isotope	Geometry
H8W1T1AC	111	15

Sample Count Date/Time	Beta Counts	Count Duration*	Beta Bkg Counts	Bkg Count Duration*	Instr ID
25-JUL-2006 09:18:59.00	828	150.00	574	500.00	31C

Alpha Counts	Alpha Bkg Counts	Guard Counts	HV
2	14	4928	1492

Bkg Count Date/Time
25-JUL-2006 05:33:57.00

Count Date/Times are the Count Completion Date and Time.

* Count Durations in Minutes.

RADIUM 228

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/25/2006 3:52:48 PM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191221; RRA228 Ra-228 by GPC

SDG, Matrix: 32052; FILTER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?	✓		
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?			✓
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:

First Level Review Pam Anderson **Date** 7-25-06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 619121

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria?	✓		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other 1. Are all Nonconformances included and noted?			✓
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: _____

Second Level Review: Sherryl R Adam Date: 7-26-04

7/14/2006 9:53:33 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

Sep1 DT/Tm Tech: 7/17/06 AL 1512

AnalyDueDate: 07/31/2006

Batch: 6191221 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech: 7-24-06 M 11:07

SEQ Batch, Test: 6191220, BXTE

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8MXT-1-AD J6G030156-1-SAMP	0.833g	502.16g	152.83g,in	0.2535g	RATA23261 07/12/06	in	316	3x50	7A 1712 7/24/06 AD 7A 0703 7/25/06	
06/12/2006 14:25		AmtRec: FILTER	#Containers: 1	7.205 / 7.5759 = 0.9510		Scr:		Alpha:		Beta:
2 H8MXV-1-AD J6G030156-2-SAMP	0.833g	500.50g	152.83g,in	0.2544g	RATA23262 07/12/06	31.2			7B 1712 7/24/06 AD 7B 0703 7/25/06	
06/12/2006 15:45		AmtRec: FILTER	#Containers: 1	8.210 / 7.6350 = 1.0753		Scr:		Alpha:		Beta:
3 H8MXW-1-AD J6G030156-3-SAMP	0.833g	511.31g	154.68g,in	0.252g	RATA23263 07/12/06	31.4			7C 1712 7/24/06 AD 7C 0703 7/25/06	
06/12/2006 16:45		AmtRec: FILTER	#Containers: 1	7.150 / 7.5661 = 0.9450		Scr:		Alpha:		Beta:
4 H8MXX-1-AD J6G030156-4-SAMP	0.833g	500.07g	150.93g,in	0.2514g	RATA23264 07/12/06	30.8			1A 1710 7/24/06 AD 1A ~~0703~~ 7/25/06	
06/12/2006 17:50		AmtRec: FILTER	#Containers: 1	6.486 / 7.5660 = 0.8573		Scr:		Alpha:		Beta:

7/14/2006 9:53:33 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191221 FILTER pCi/sampl PM, Quote: SA , 63174

Sep2 DT/Tm Tech:

SEQ Batch, Test: 6191220, BXTE

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H8MX3-1-AD J6G030156-5-SAMP	0.833g	503.86g	151.70g,in	0.2508g 7.185 / 7.582 = 0.9509	RATA23265 07/12/06	in 29.83	450	IC 1710	07/24/06 OMD IC 0703 7/28/06	
06/12/2006 18:35		AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
6 H8MX6-1-AD J6G030156-6-SAMP	0.833g	504.67g	151.36g,in	0.2498g 6.214 / 7.5168 = 0.8267	RATA23266 07/12/06	30.0		1D 1710	7/24/06 OMD 1D 0703 7/28/06	
06/12/2006 19:10		AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
7 H8MX8-1-AD J6G030156-7-SAMP	0.833g	501.56g	151.35g,in	0.2514g 7.320 / 7.5759 = 0.9662	RATA23267 07/12/06	31.2		2A 1714	7/24/06 OMD 2A 0703 7/28/06	
06/12/2006 14:35		AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:
8 H8M0K-1-AD J6G030156-8-SAMP	0.833g	501.61g	153.14g,in	0.2543g 6.964 / 7.6252 = 0.9133	RATA23268 07/12/06	30.3		2B 1714	7/24/06 OMD 2B 0703 7/28/06	
06/12/2006 00:49		AmtRec: FILTER	#Containers: 1			Scr:		Alpha:		Beta:

STL RICHLAND

7/14/2006 9:53:33 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191221 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6191220, BXTE

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H8M0Q-1-AD J6G030156-9-SAMP	0.833g	500.21g	151.06g,in	0.2516g 7.503 / 7.5463 = 6.9943	RATA23269 07/12/06	in	30.9	3X50	2C 1714 7/24/06 00 2C 0703 7/25/06	
06/12/2006 00:49		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
10 H8M0V-1-AD J6G030156-10-SAMP	0.833g	501.62g	150.79g,in	0.2504g 7.372 / 7.5463 = 0.9769	RATA23270 07/12/06		31.1		2D 1714 7/24/06 00 2D 0703 7/25/06	
06/12/2006 00:28		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
11 H8M05-1-AD J6G030156-11-SAMP	0.833g	502.43g	150.15g,in	0.2489g 7.220 / 7.5168 = 0.9605	RATA23271 07/12/06		30.6		3A 1711 7/24/06 00 3A 0703 7/25/06	
06/12/2006 00:38		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:
12 H8M08-1-AD J6G030156-12-SAMP	0.833g	504.38g	151.05g,in	0.2495g 7.027 / 7.5660 = 0.9288	RATA23272 07/12/06		29.9		3B 1711 7/24/06 00 3B 0703 7/25/06 00	
06/12/2006 00:36		AmtRec: FILTER		#Containers: 1			Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 9:53:34 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191221 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6191220, BXTE

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13H8M1C-1-AD J6G030156-13-SAMP	0.833g	507.93g	150.80g,in	0.2473g	RATA23273 07/12/06	in 29.6	3X50	3C	1711	7/24/0600
				7.489 / 7.5857 = 0.9873				3C	0703	7/25/06
06/12/2006 00:37		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
14H8M1E-1-AD J6G030156-14-SAMP	0.833g	500.10g	155.54g,in	0.2591g	RATA23274 07/12/06	30.2		3D	1711	7/24/0600
				7.190 / 7.5168 = 0.9565				3D	0703	7/25/06
06/12/2006 00:33		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
15H8M1G-1-AD J6G030156-15-SAMP	0.833g	507.33g	151.46g,in	0.2487g	RATA23275 07/12/06	31.7		4A	1711	7/24/0600
				7.733 / 7.5562 = 1.0234				4A	0703	7/25/06
06/12/2006 00:24		AmtRec: FILTER		#Containers: 1		Scr:		Alpha:		Beta:
16H8W14-1-AA-B J6G100000-221-BLK			1.00sa,in	1.00sa	RATA23276 07/12/06	30.8		4B	1711	7/24/0600
				7.719 / 7.4872 = 1.0310				4B	0703	7/25/06
06/12/2006 14:25		AmtRec:		#Containers: 1		Scr:		Alpha:		Beta:

7/14/2006 9:53:34 AM

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TF Radium-228 by GPC
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191221 pCi/sampl

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
17H8W14-1-AC-C J6G100000-221-LCS			1.00sa,in	1.00sa	RASC4141 06/13/06	lin	31.0	3x50	4c 17/17/24/0600	
				8.288 / 7.5263 = 1.1012					4c 8103 7/25/06 B	

06/12/2006 14:25 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H8MXT1AD-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						

H8W141AA-BLK:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:
RA-228DA	RDL:3.10E+00	pCi/sam	LCL:	UCL:	RPD:						

H8W141AC-LCS:

Ba-133	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20	Ra-226	RDL:	pCi/sam	LCL:70	UCL:130	RPD:20
RA-228	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20	RA-228DA	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H8MXT1AD-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H8W141AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

H8W141AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

7/25/2006 3:42:08 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/25/2005, 7/30/2006, Batch: '6191221', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191221						
AC		**CalcC**	**HansenM**	7/14/2006 8:47:37		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/14/2006 8:47:37 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/14/2006 8:48:04 AM	RICH-RC-5016 REVISION 5
SC			LongA	Sep1C	7/17/2006 5:26:07 PM	RICH-RC-5005 REVISION 5
SC			TamosaitisM	Sep2C	7/24/2006 11:54:54 AM	RICH-RC-5005 REVISION 4
SC			DAWKINSO	InCnt1	7/24/2006 2:33:20 PM	RICH-RD-0003 REVISION 4
SC			BlackCL	CalcC	7/25/2006 8:27:49 AM	RICH-RD-0003 REVISION 4
AC			**HansenM**	7/14/2006 8:48:04		
AC			**LongA**	7/17/2006 5:26:07 PM		
AC			**TamosaitisM**	7/24/2006 11:54:54		
AC			**DAWKINSO**	7/24/2006 2:33:20 PM		
AC			**BlackCL**	7/25/2006 8:27:49		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Page 1

Grp Rec Cnt: 6

ICOCFractions v4.8.18

7/25/2006 3:42:07 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes
32052	**9H8M0510**			**J6G03015611**	000497	FILTER	7/3/2006 10:00:00	6/13/2006 2:00:00 PM				
BETA	BDS8		0	7/25/2006 8:04:00 AM	**3.1988E+01**	2.058E+00	3.015E+00	5.268E+00	PCI/SA	1.0	1.0E+0	3.49E-2
RA-226	BXTE		0	7/22/2006 12:09:00 PM	**7.0504E-03**	1.394E-01	1.394E-01	5.897E-01	PCI/SA	0.961	1.0E+0	2.489E-1
RA-228	BXTF		0	7/25/2006 7:07:54 AM	**8.3658E-01**	3.722E-01	3.836E-01	1.637E+00	PCI/SA	0.854	1.0E+0	2.489E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**5.7793E-02**	5.779E-02	5.801E-02	2.311E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**2.9555E-01**	1.045E-01	1.076E-01	1.001E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**9.236E-02**	6.66E-02	6.709E-02	2.216E-01	PCI/SA	1.093	1.0E+0	3.315E-2
U-234	7YSR		0	7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-235	7YSR		0	7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-238	7YSR		0	7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
32052	**9H8M0810**			**J6G03015612**	000498	FILTER	7/3/2006 10:00:00	6/13/2006 12:00:00 PM				
BETA	BDS8		0	7/25/2006 8:04:03 AM	**3.3794E+01**	2.001E+00	3.046E+00	4.961E+00	PCI/SA	1.0	1.0E+0	3.705E-2
RA-226	BXTE		0	7/22/2006 12:11:01 PM	**2.3986E-01**	1.884E-01	1.901E-01	6.618E-01	PCI/SA	0.929	1.0E+0	2.495E-1
RA-228	BXTF		0	7/25/2006 7:07:54 AM	**2.4165E+00**	4.918E-01	5.158E-01	1.737E+00	PCI/SA	0.807	1.0E+0	2.495E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.7058E-01**	9.848E-02	9.962E-02	3.186E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**4.1797E-01**	1.272E-01	1.324E-01	2.18E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**6.0639E-07**	4.451E-02	4.451E-02	2.675E-01	PCI/SA	1.035	1.0E+0	3.514E-2
U-234	7YSR		0	7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-235	7YSR		0	7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-238	7YSR		0	7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA	1.037	1.0E+0	3.198E-2
32052	**9H8M0K10**			**J6G0301568**	000494	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
BETA	BDS8		0	7/24/2006 7:37:55 PM	**3.6285E+01**	2.191E+00	3.392E+00	5.671E+00	PCI/SA	1.0	1.0E+0	3.401E-2
RA-226	BXTE		0	7/22/2006 11:40:01	**5.1423E-01**	2.699E-01	2.748E-01	8.78E-01	PCI/SA	0.913	1.0E+0	2.543E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**2.0608E+00**	5.112E-01	5.355E-01	1.989E+00	PCI/SA	0.804	1.0E+0	2.543E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.8768E-06**	7.954E-02	7.954E-02	4.036E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**4.1367E-01**	1.259E-01	1.311E-01	2.158E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**6.0016E-07**	4.406E-02	4.406E-02	2.648E-01	PCI/SA	1.022	1.0E+0	3.371E-2
U-234	7YSR		0	7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR		0	7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR		0	7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32052	**9H8M0Q10**			**J6G0301569**	000495	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
BETA	BDS8		0	7/25/2006 8:04:00 AM	**3.4647E+01**	2.104E+00	3.284E+00	5.559E+00	PCI/SA	1.0	1.0E+0	3.423E-2
RA-226	BXTE		0	7/22/2006 12:11:00 PM	**2.2471E-01**	1.88E-01	1.893E-01	6.636E-01	PCI/SA	0.994	1.0E+0	2.516E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**1.1188E+00**	4.041E-01	4.203E-01	1.723E+00	PCI/SA	0.893	1.0E+0	2.516E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**1.6142E-01**	9.508E-02	9.619E-02	2.766E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**2.6546E-01**	1.084E-01	1.11E-01	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**4.4243E-02**	4.424E-02	4.442E-02	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
U-234	7YSR		0	7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-235	7YSR		0	7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-238	7YSR		0	7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA	0.987	1.0E+0	3.258E-2
32052	**9H8M0V10**			**J6G03015610**	000496	FILTER	7/3/2006 10:00:00	6/13/2006 4:00:00 AM				
BETA	BDS8		0	7/25/2006 8:04:00 AM	**2.6174E+01**	1.937E+00	2.668E+00	5.432E+00	PCI/SA	1.0	1.0E+0	3.487E-2
RA-226	BXTE		0	7/22/2006 12:12:00 PM	**6.1129E-01**	3.01E-01	3.071E-01	9.678E-01	PCI/SA	0.977	1.0E+0	2.504E-1
RA-228	BXTF		0	7/25/2006 7:07:44 AM	**7.5904E-01**	4.099E-01	4.374E-01	1.931E+00	PCI/SA	0.883	1.0E+0	2.504E-1
TH-228	9NS1		0	7/19/2006 8:35:56 PM	**9.0006E-02**	6.364E-02	6.415E-02	1.22E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-230	9NS1		0	7/19/2006 8:35:56 PM	**1.7254E-01**	8.627E-02	8.764E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-232	9NS1		0	7/19/2006 8:35:56 PM	**4.3134E-02**	4.313E-02	4.331E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
U-234	7YSR		0	7/18/2006 11:45:19 PM	**-1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-235	7YSR		0	7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-238	7YSR		0	7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
32052	**9H8M1C10**			**J6G03015613**	000499	FILTER	7/3/2006 10:00:00	6/13/2006 1:00:00 PM				
BETA	BDS8		0	7/25/2006 8:04:03 AM	**3.5671E+01**	2.062E+00	3.183E+00	5.008E+00	PCI/SA	1.0	1.0E+0	3.287E-2

6191221, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006

SDG or Batch / Isotope	Rpt Db Id / Method	RTst Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / MDA	Units	Expected	Yield	Volumes	
RA-226	BXTE	0	7/22/2006 12:12:00 PM	**2.8971E-01**	1.836E-01	1.863E-01	6.209E-01	PCI/SA		0.987	1.0E+0	2.473E-1
RA-228	BXTF	0	7/25/2006 7:07:54 AM	**1.6293E+00**	4.611E-01	4.915E-01	1.927E+00	PCI/SA		0.85	1.0E+0	2.473E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**6.4329E-02**	6.433E-02	6.458E-02	2.572E-01	PCI/SA		1.001	1.0E+0	3.393E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**2.4672E-01**	1.007E-01	1.031E-01	1.114E-01	PCI/SA		1.001	1.0E+0	3.393E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**0.0E+00**	0.0E+00	5.036E-02	1.114E-01	PCI/SA		1.001	1.0E+0	3.393E-2
U-234	7YSR	0	7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA		0.936	1.0E+0	3.152E-2
U-235	7YSR	0	7/18/2006 11:45:58 PM	**-2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA		0.936	1.0E+0	3.152E-2
U-238	7YSR	0	7/18/2006 11:45:58 PM	**-5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA		0.936	1.0E+0	3.152E-2
32052	**9H8M1E10**		**J6G03015614**	000500	FILTER	7/3/2006 10:00:00	6/13/2006 9:00:00 AM					
BETA	BDS8	0	7/25/2006 8:04:03 AM	**4.7454E-02**	1.168E+00	1.168E+00	4.973E+00	PCI/SA		1.0	1.0E+0	3.485E-2
RA-226	BXTE	0	7/22/2006 12:10:00 PM	**2.478E-02**	1.863E-01	1.863E-01	7.319E-01	PCI/SA		0.956	1.0E+0	2.591E-1
RA-228	BXTF	0	7/25/2006 7:07:54 AM	**7.884E-01**	3.863E-01	3.924E-01	1.699E+00	PCI/SA		0.84	1.0E+0	2.591E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**1.8471E-02**	4.13E-02	4.133E-02	2.216E-01	PCI/SA		0.961	1.0E+0	3.455E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**5.3122E-02**	5.312E-02	5.333E-02	2.124E-01	PCI/SA		0.961	1.0E+0	3.455E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**-3.5414E-02**	2.504E-02	2.523E-02	2.607E-01	PCI/SA		0.961	1.0E+0	3.455E-2
U-234	7YSR	0	7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-235	7YSR	0	7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-238	7YSR	0	7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA		0.973	1.0E+0	3.256E-2
32052	**9H8M1G10**		**J6G03015615**	000501	FILTER	7/3/2006 10:00:00	6/13/2006					
BETA	BDS8	0	7/25/2006 8:03:59 AM	**2.1848E+00**	1.302E+00	1.311E+00	5.245E+00	PCI/SA		1.0	1.0E+0	3.328E-2
RA-226	BXTE	0	7/22/2006 12:13:00 PM	**-1.774E-02**	1.291E-01	1.292E-01	5.48E-01	PCI/SA		1.023	1.0E+0	2.487E-1
RA-228	BXTF	0	7/25/2006 7:08:03 AM	**7.8992E-01**	4.536E-01	4.697E-01	2.083E+00	PCI/SA		0.943	1.0E+0	2.487E-1
TH-228	9NS1	0	7/19/2006 8:36:46 PM	**4.7234E-02**	7.468E-02	7.48E-02	3.476E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-230	9NS1	0	7/19/2006 8:36:46 PM	**4.9791E-01**	1.501E-01	1.568E-01	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-232	9NS1	0	7/19/2006 8:36:46 PM	**0.0E+00**	0.0E+00	5.544E-02	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
U-234	7YSR	0	7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-235	7YSR	0	7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-238	7YSR	0	7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA		1.01	1.0E+0	3.18E-2
32052	**9H8MX310**		**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00	6/12/2006 6:35:00 PM					
BETA	BDS8	0	7/24/2006 7:37:55 PM	**2.4778E+01**	1.895E+00	2.546E+00	5.23E+00	PCI/SA		1.0	1.0E+0	3.289E-2
RA-226	BXTE	0	7/22/2006 11:42:00	**-2.4609E-01**	2.871E-01	2.881E-01	1.156E+00	PCI/SA		0.951	1.0E+0	2.508E-1
RA-228	BXTF	0	7/25/2006 8:06:04 AM	**-2.7397E-01**	4.927E-01	4.927E-01	2.436E+00	PCI/SA		0.824	1.0E+0	2.508E-1
TH-228	9NS1	0	7/19/2006 10:14:41	**9.0145E-02**	8.433E-02	8.471E-02	3.318E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-230	9NS1	0	7/19/2006 10:14:41	**4.3207E-01**	1.366E-01	1.42E-01	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-232	9NS1	0	7/19/2006 10:14:41	**4.3207E-02**	4.321E-02	4.338E-02	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
U-234	7YSR	0	7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-235	7YSR	0	7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-238	7YSR	0	7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
32052	**9H8MX610**		**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00	6/12/2006 7:10:00 PM					
BETA	BDS8	0	7/24/2006 7:37:55 PM	**2.5276E+01**	1.869E+00	2.551E+00	5.127E+00	PCI/SA		1.0	1.0E+0	3.443E-2
RA-226	BXTE	0	7/22/2006 11:40:01	**-2.9157E-01**	2.781E-01	2.796E-01	1.241E+00	PCI/SA		0.827	1.0E+0	2.498E-1
RA-228	BXTF	0	7/25/2006 8:06:04 AM	**1.5574E+00**	6.177E-01	6.43E-01	2.733E+00	PCI/SA		0.721	1.0E+0	2.498E-1
TH-228	9NS1	0	7/19/2006 10:14:43	**-3.742E-05**	2.778E-01	2.778E-01	1.489E+00	PCI/SA		0.288	1.0E+0	3.449E-2
TH-230	9NS1	0	7/19/2006 10:14:43	**6.9177E-01**	3.522E-01	3.611E-01	9.221E-01	PCI/SA		0.288	1.0E+0	3.449E-2
TH-232	9NS1	0	7/19/2006 10:14:43	**0.0E+00**	0.0E+00	1.883E-01	4.166E-01	PCI/SA		0.288	1.0E+0	3.449E-2
U-234	7YSR	0	7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-235	7YSR	0	7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-238	7YSR	0	7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA		0.83	1.0E+0	3.244E-2
32052	**9H8MX810**		**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00	6/12/2006 2:35:00 PM					
BETA	BDS8	0	7/24/2006 7:37:55 PM	**2.7055E+01**	1.867E+00	3.059E+00	4.895E+00	PCI/SA		1.0	1.0E+0	3.439E-2
RA-226	BXTE	0	7/22/2006 11:41:00	**6.9133E-01**	2.808E-01	2.895E-01	8.599E-01	PCI/SA		0.966	1.0E+0	2.514E-1
RA-228	BXTF	0	7/25/2006 7:07:44 AM	**2.213E+00**	5.068E-01	5.272E-01	1.884E+00	PCI/SA		0.876	1.0E+0	2.514E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**5.4185E-02**	1.271E-01	1.272E-01	5.832E-01	PCI/SA		0.701	1.0E+0	3.517E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**5.969E-01**	1.817E-01	1.899E-01	3.113E-01	PCI/SA		0.701	1.0E+0	3.517E-2

6191221, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / mda	Units	Expected	Yield	Volumes	
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**5.1904E-02**	5.19E-02	5.213E-02	1.407E-01	PCI/SA		0.701	1.0E+0	3.517E-2
U-234	7YSR	0		7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-235	7YSR	0		7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-238	7YSR	0		7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
32052	**9H8MXT10**			**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.6315E+01**	1.873E+00	2.64E+00	5.044E+00	PCI/SA		1.0	1.0E+0	3.503E-2
RA-226	BXTE	0		7/22/2006 11:42:00	**-4.6495E-01**	2.373E-01	2.421E-01	1.035E+00	PCI/SA		0.951	1.0E+0	2.535E-1
RA-228	BXTF	0		7/25/2006 7:07:26 AM	**-2.7559E-01**	5.109E-01	5.109E-01	2.494E+00	PCI/SA		0.874	1.0E+0	2.535E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**2.1989E-02**	4.917E-02	4.921E-02	2.638E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
U-234	7YSR	0		7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2
U-235	7YSR	0		7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2
U-238	7YSR	0		7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA		1.043	1.0E+0	3.244E-2
32052	**9H8MXV10**			**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00	6/12/2006 3:45:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.1323E+01**	1.743E+00	2.511E+00	4.916E+00	PCI/SA		1.0	1.0E+0	3.365E-2
RA-226	BXTE	0		7/22/2006 11:40:00	**2.1993E-01**	2.47E-01	2.481E-01	8.946E-01	PCI/SA		1.075	1.0E+0	2.544E-1
RA-228	BXTF	0		7/25/2006 7:07:26 AM	**1.0132E+00**	4.899E-01	5.02E-01	2.182E+00	PCI/SA		0.975	1.0E+0	2.544E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**1.7101E-02**	3.824E-02	3.827E-02	2.051E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**2.7863E-01**	9.97E-02	1.026E-01	1.966E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**-3.2779E-02**	2.318E-02	2.335E-02	2.413E-01	PCI/SA		1.077	1.0E+0	3.779E-2
U-234	7YSR	0		7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-235	7YSR	0		7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-238	7YSR	0		7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
32052	**9H8MXW10**			**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**2.9691E+01**	1.954E+00	2.81E+00	5.111E+00	PCI/SA		1.0	1.0E+0	3.441E-2
RA-226	BXTE	0		7/22/2006 11:39:00	**1.3365E+00**	3.131E-01	3.436E-01	7.782E-01	PCI/SA		0.945	1.0E+0	2.52E-1
RA-228	BXTF	0		7/25/2006 7:07:26 AM	**2.9463E-01**	6.006E-01	6.045E-01	2.81E+00	PCI/SA		0.863	1.0E+0	2.52E-1
TH-228	9NS1	0		7/19/2006 10:14:26	**-9.5285E-02**	4.261E-02	4.343E-02	3.835E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-230	9NS1	0		7/19/2006 10:14:26	**4.9309E-01**	1.379E-01	1.446E-01	2.191E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-232	9NS1	0		7/19/2006 10:14:26	**3.6525E-02**	3.653E-02	3.667E-02	9.898E-02	PCI/SA		0.899	1.0E+0	3.344E-2
U-234	7YSR	0		7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-235	7YSR	0		7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-238	7YSR	0		7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA		0.853	1.0E+0	3.157E-2
32052	**9H8MXX10**			**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM					
BETA	BDS8	0		7/24/2006 7:37:25 PM	**3.3206E+01**	2.045E+00	3.092E+00	5.181E+00	PCI/SA		1.0	1.0E+0	3.46E-2
RA-226	BXTE	0		7/22/2006 11:41:00	**5.698E-01**	2.615E-01	2.69E-01	8.269E-01	PCI/SA		0.857	1.0E+0	2.514E-1
RA-228	BXTF	0		7/25/2006 8:06:04 AM	**-2.5504E-01**	5.585E-01	5.592E-01	2.73E+00	PCI/SA		0.768	1.0E+0	2.514E-1
TH-228	9NS1	0		7/19/2006 10:14:33	**1.1341E-01**	9.889E-02	9.941E-02	3.814E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-230	9NS1	0		7/19/2006 10:14:33	**4.3487E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-232	9NS1	0		7/19/2006 10:14:33	**0.0E+00**	0.0E+00	5.326E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
32052	**H8W141AB**			**J6G100000221**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
RA-228	BXTF	0	B	7/25/2006 7:08:03 AM	**5.1526E-01**	1.116E-01	1.186E-01	4.059E-01	PCI/SA		0.923	1.0E+0	1.0E+0
32052	**H8W141CS**			**J6G100000221**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
RA-228	BXTF	0	S	7/25/2006 7:08:03 AM	**3.9035E+00**	2.209E-01	3.157E-01	3.739E-01	PCI/SA	5.0504E+00	0.992	1.0E+0	1.0E+0

6191221, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M051AD=> , sdt:6/13/2006

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-228 by GPC				Ra-226/Ra-228 Deem With Out Blk Subt.										
Calc	TF	FILTER	H8MXT1AD	RA-228	1.22E-01	(8.19E-01)	U4	PCI/SA	R	1.78E+00	3.88E+00		87%	
Calc	TF	FILTER	H8MXT1AD	RA-228	-9.49E-01	(8.29E-01)	U4	PCI/SA	R	1.97E+00	4.30E+00		87%	
Calc	TF	FILTER	H8MXT1AD	RA-228	0.00E+00	(9.96E-01)	U4	PCI/SA	R	2.18E+00	4.77E+00		87%	
Calc	TF	FILTER	H8MXT1AD	RA-228	-2.76E-01	(5.11E-01)	U4	PCI/SA	A	1.14E+00	2.49E+00		87%	
Calc	TF	FILTER	H8MXT1AD	RA-228	6.07E+00	(5.20E+00)	U4	PCI/SA	R	1.03E+01	2.26E+01		87%	
Calc	TF	FILTER	H8MXV1AD	RA-228	1.14E+00	(7.98E-01)	U4	PCI/SA	R	1.55E+00	3.39E+00		98%	
Calc	TF	FILTER	H8MXV1AD	RA-228	1.03E+00	(8.66E-01)	U4	PCI/SA	R	1.72E+00	3.77E+00		98%	
Calc	TF	FILTER	H8MXV1AD	RA-228	8.71E-01	(9.39E-01)	U4	PCI/SA	R	1.91E+00	4.18E+00		98%	
Calc	TF	FILTER	H8MXV1AD	RA-228	1.01E+00	(5.02E-01)		PCI/SA	A	9.97E-01	2.18E+00		98%	
Calc	TF	FILTER	H8MXV1AD	RA-228	2.83E+00	(4.31E+00)	U4	PCI/SA	R	8.97E+00	1.97E+01		98%	
Calc	TF	FILTER	H8MXW1AD	RA-228	9.55E-02	(9.25E-01)	U4	PCI/SA	R	2.01E+00	4.37E+00		86%	
Calc	TF	FILTER	H8MXW1AD	RA-228	6.71E-01	(1.07E+00)	U4	PCI/SA	R	2.23E+00	4.85E+00		86%	
Calc	TF	FILTER	H8MXW1AD	RA-228	1.18E-01	(1.14E+00)	U4	PCI/SA	R	2.48E+00	5.38E+00		86%	
Calc	TF	FILTER	H8MXW1AD	RA-228	2.95E-01	(6.05E-01)	U4	PCI/SA	A	1.29E+00	2.81E+00		86%	
Calc	TF	FILTER	H8MXW1AD	RA-228	2.46E+00	(5.36E+00)	U4	PCI/SA	R	1.14E+01	2.47E+01		86%	
Calc	TF	FILTER	H8MXX1AD	RA-228	-4.11E-01	(8.53E-01)	U4	PCI/SA	R	1.94E+00	4.25E+00		77%	
Calc	TF	FILTER	H8MXX1AD	RA-228	1.52E-01	(9.93E-01)	U4	PCI/SA	R	2.15E+00	4.71E+00		77%	
Calc	TF	FILTER	H8MXX1AD	RA-228	-5.06E-01	(1.05E+00)	U4	PCI/SA	R	2.39E+00	5.23E+00		77%	
Calc	TF	FILTER	H8MXX1AD	RA-228	-2.55E-01	(5.59E-01)	U4	PCI/SA	A	1.25E+00	2.73E+00		77%	
Calc	TF	FILTER	H8MXX1AD	RA-228	7.94E+00	(5.99E+00)	U4	PCI/SA	R	1.16E+01	2.57E+01		77%	
Calc	TF	FILTER	H8MX31AD	RA-228	6.48E-02	(7.89E-01)	U4	PCI/SA	R	1.72E+00	3.79E+00		82%	
Calc	TF	FILTER	H8MX31AD	RA-228	-6.47E-01	(8.17E-01)	U4	PCI/SA	R	1.91E+00	4.20E+00		82%	
Calc	TF	FILTER	H8MX31AD	RA-228	-2.39E-01	(9.45E-01)	U4	PCI/SA	R	2.12E+00	4.66E+00		82%	
Calc	TF	FILTER	H8MX31AD	RA-228	-2.74E-01	(4.93E-01)	U4	PCI/SA	A	1.11E+00	2.44E+00		82%	
Calc	TF	FILTER	H8MX31AD	RA-228	1.93E+00	(5.05E+00)	U4	PCI/SA	R	1.07E+01	2.37E+01		82%	
Calc	TF	FILTER	H8MX61AD	RA-228	2.03E+00	(1.05E+00)		PCI/SA	R	1.93E+00	4.25E+00		72%	
Calc	TF	FILTER	H8MX61AD	RA-228	1.76E+00	(1.13E+00)	U4	PCI/SA	R	2.14E+00	4.72E+00		72%	
Calc	TF	FILTER	H8MX61AD	RA-228	8.78E-01	(1.16E+00)	U4	PCI/SA	R	2.37E+00	5.23E+00		72%	
Calc	TF	FILTER	H8MX61AD	RA-228	1.56E+00	(6.43E-01)		PCI/SA	A	1.24E+00	2.73E+00		72%	
Calc	TF	FILTER	H8MX61AD	RA-228	6.78E+00	(6.22E+00)	U4	PCI/SA	R	1.23E+01	2.73E+01		72%	
Calc	TF	FILTER	H8MX81AD	RA-228	2.35E+00	(8.61E-01)		PCI/SA	R	1.26E+00	2.93E+00		88%	
Calc	TF	FILTER	H8MX81AD	RA-228	1.95E+00	(8.78E-01)		PCI/SA	R	1.40E+00	3.25E+00		88%	
Calc	TF	FILTER	H8MX81AD	RA-228	2.34E+00	(9.95E-01)		PCI/SA	R	1.56E+00	3.61E+00		88%	
Calc	TF	FILTER	H8MX81AD	RA-228	2.21E+00	(5.27E-01)		PCI/SA	A	8.13E-01	1.88E+00		88%	
Calc	TF	FILTER	H8MX81AD	RA-228	8.62E+00	(4.28E+00)		PCI/SA	R	6.90E+00	1.62E+01		88%	
Calc	TF	FILTER	H8M0K1AD	RA-228	2.92E+00	(9.54E-01)		PCI/SA	R	1.34E+00	3.09E+00		80%	
Calc	TF	FILTER	H8M0K1AD	RA-228	1.37E+00	(8.43E-01)	U4	PCI/SA	R	1.49E+00	3.43E+00		80%	
Calc	TF	FILTER	H8M0K1AD	RA-228	1.89E+00	(9.80E-01)		PCI/SA	R	1.65E+00	3.81E+00		80%	

() - (1s Uncertainities)
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*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:39
RADCALC v4.8.24
STL Richland

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	H8M0K1AD	RA-228	2.06E+00	(5.35E-01)		PCI/SA	A	8.61E-01	1.99E+00		80%	
Calc	TF	FILTER	H8M0K1AD	RA-228	7.75E+00	(4.40E+00)		PCI/SA	R	7.50E+00	1.75E+01		80%	
Calc	TF	FILTER	H8M0Q1AD	RA-228	1.67E+00	(7.36E-01)		PCI/SA	R	1.14E+00	2.68E+00		89%	
Calc	TF	FILTER	H8M0Q1AD	RA-228	8.85E-01	(6.97E-01)	U4	PCI/SA	R	1.27E+00	2.97E+00		89%	
Calc	TF	FILTER	H8M0Q1AD	RA-228	8.03E-01	(7.50E-01)	U4	PCI/SA	R	1.41E+00	3.30E+00		89%	
Calc	TF	FILTER	H8M0Q1AD	RA-228	1.12E+00	(4.20E-01)		PCI/SA	A	7.36E-01	1.72E+00		89%	
Calc	TF	FILTER	H8M0Q1AD	RA-228	-3.97E+00	(2.69E+00)	U4	PCI/SA	R	7.10E+00	1.65E+01		89%	
Calc	TF	FILTER	H8M0V1AD	RA-228	1.89E+00	(8.16E-01)		PCI/SA	R	1.31E+00	3.00E+00		88%	
Calc	TF	FILTER	H8M0V1AD	RA-228	-3.22E-01	(6.21E-01)	U4	PCI/SA	R	1.45E+00	3.33E+00		88%	
Calc	TF	FILTER	H8M0V1AD	RA-228	7.14E-01	(8.19E-01)	U4	PCI/SA	R	1.61E+00	3.70E+00		88%	
Calc	TF	FILTER	H8M0V1AD	RA-228	7.59E-01	(4.37E-01)		PCI/SA	A	8.40E-01	1.93E+00		88%	
Calc	TF	FILTER	H8M0V1AD	RA-228	7.62E+00	(3.95E+00)		PCI/SA	R	6.36E+00	1.50E+01		88%	
Calc	TF	FILTER	H8M051AD	RA-228	1.15E+00	(6.48E-01)		PCI/SA	R	1.08E+00	2.55E+00		85%	
Calc	TF	FILTER	H8M051AD	RA-228	6.46E-01	(6.37E-01)	U4	PCI/SA	R	1.20E+00	2.83E+00		85%	
Calc	TF	FILTER	H8M051AD	RA-228	7.17E-01	(7.07E-01)	U4	PCI/SA	R	1.33E+00	3.14E+00		85%	
Calc	TF	FILTER	H8M051AD	RA-228	8.37E-01	(3.84E-01)		PCI/SA	A	6.96E-01	1.64E+00		85%	
Calc	TF	FILTER	H8M051AD	RA-228	5.12E+00	(3.40E+00)	U4	PCI/SA	R	5.79E+00	1.38E+01		85%	
Calc	TF	FILTER	H8M081AD	RA-228	2.68E+00	(8.60E-01)		PCI/SA	R	1.15E+00	2.70E+00		81%	
Calc	TF	FILTER	H8M081AD	RA-228	2.00E+00	(8.40E-01)		PCI/SA	R	1.28E+00	3.00E+00		81%	
Calc	TF	FILTER	H8M081AD	RA-228	2.58E+00	(9.74E-01)		PCI/SA	R	1.42E+00	3.33E+00		81%	
Calc	TF	FILTER	H8M081AD	RA-228	2.42E+00	(5.16E-01)		PCI/SA	A	7.42E-01	1.74E+00		81%	
Calc	TF	FILTER	H8M081AD	RA-228	1.98E+01	(5.58E+00)		PCI/SA	R	6.95E+00	1.62E+01		81%	
Calc	TF	FILTER	H8M1C1AD	RA-228	2.73E+00	(9.04E-01)		PCI/SA	R	1.31E+00	3.00E+00		85%	
Calc	TF	FILTER	H8M1C1AD	RA-228	1.77E+00	(8.65E-01)		PCI/SA	R	1.45E+00	3.33E+00		85%	
Calc	TF	FILTER	H8M1C1AD	RA-228	3.92E-01	(7.80E-01)	U4	PCI/SA	R	1.61E+00	3.69E+00		85%	
Calc	TF	FILTER	H8M1C1AD	RA-228	1.63E+00	(4.91E-01)		PCI/SA	A	8.41E-01	1.93E+00		85%	
Calc	TF	FILTER	H8M1C1AD	RA-228	5.14E+00	(3.94E+00)	U4	PCI/SA	R	7.27E+00	1.68E+01		85%	
Calc	TF	FILTER	H8M1E1AD	RA-228	7.59E-01	(6.15E-01)	U4	PCI/SA	R	1.13E+00	2.64E+00		84%	
Calc	TF	FILTER	H8M1E1AD	RA-228	8.42E-01	(6.82E-01)	U4	PCI/SA	R	1.26E+00	2.93E+00		84%	
Calc	TF	FILTER	H8M1E1AD	RA-228	7.64E-01	(7.36E-01)	U4	PCI/SA	R	1.40E+00	3.25E+00		84%	
Calc	TF	FILTER	H8M1E1AD	RA-228	7.88E-01	(3.92E-01)		PCI/SA	A	7.30E-01	1.70E+00		84%	
Calc	TF	FILTER	H8M1E1AD	RA-228	-5.92E+00	(2.34E+00)	U4	PCI/SA	R	6.92E+00	1.60E+01		84%	
Calc	TF	FILTER	H8M1G1AD	RA-228	8.56E-01	(7.43E-01)	U4	PCI/SA	R	1.45E+00	3.24E+00		94%	
Calc	TF	FILTER	H8M1G1AD	RA-228	1.23E+00	(8.51E-01)	U4	PCI/SA	R	1.61E+00	3.59E+00		94%	
Calc	TF	FILTER	H8M1G1AD	RA-228	2.87E-01	(8.42E-01)	U4	PCI/SA	R	1.79E+00	3.99E+00		94%	
Calc	TF	FILTER	H8M1G1AD	RA-228	7.90E-01	(4.70E-01)		PCI/SA	A	9.34E-01	2.08E+00		94%	
Calc	TF	FILTER	H8M1G1AD	RA-228	-2.58E+00	(3.54E+00)	U4	PCI/SA	R	8.31E+00	1.86E+01		94%	
Calc	TF	FILTER	H8W141AA	RA-228	2.47E-01	(1.55E-01)	U4	PCI/SA	R	2.71E-01	6.32E-01	B	92%	
Calc	TF	FILTER	H8W141AA	RA-228	1.12E+00	(2.68E-01)		PCI/SA	R	3.01E-01	7.01E-01	B	92%	

() - (1s Uncertainities)
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Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:78
RADCALC v4.8.24
STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Results

7/25/2006 8:27:39 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Calc	TF	FILTER	**H8W141AA**	RA-228	**1.83E-01**	**(1.76E-01)**	**U4**	PCI/SA	R	3.34E-01	7.77E-01	**B**	92%	
Calc	TF	FILTER	**H8W141AA**	RA-228	**5.15E-01**	**(1.19E-01)**		PCI/SA	A	1.74E-01	4.06E-01	**B**	92%	
Calc	TF	FILTER	**H8W141AA**	RA-228	**-7.56E-01**	**(6.40E-01)**	**U4**	PCI/SA	R	1.63E+00	3.78E+00	**B**	92%	
Calc	TF	FILTER	**H8W141AC**	RA-228	**3.58E+00**	**(4.97E-01)**		PCI/SA	R	2.50E-01	5.82E-01	**S**	99%	71%
Calc	TF	FILTER	**H8W141AC**	RA-228	**4.54E+00**	**(6.09E-01)**		PCI/SA	R	2.77E-01	6.45E-01	**S**	99%	90%
Calc	TF	FILTER	**H8W141AC**	RA-228	**3.59E+00**	**(5.29E-01)**		PCI/SA	R	3.08E-01	7.16E-01	**S**	99%	71%
Calc	TF	FILTER	**H8W141AC**	RA-228	**3.90E+00**	**(3.16E-01)**		PCI/SA	A	1.61E-01	3.74E-01	**S**	99%	77%
Calc	TF	FILTER	**H8W141AC**	RA-228	**4.12E+00**	**(1.16E+00)**		PCI/SA	R	1.44E+00	3.37E+00	**S**	99%	82%

P Anderson
7-25-06

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Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:85
RADCALC v4.8.24
STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:40 AM

Detailed Report

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MXT1AD**	**PCI/SA**		06/12/06 14:25	07/25/06 07:07	07/17/06 15:12	RATA23261	1	1.00 SA	
536403,P-0668					,J6G030156-1 v4.8.24		FILTER			31.6	07/24/06 11:07	RATA23261 Alq	95%	0.25352 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	40	312	GPC7A	1	N	N	5.1780E-01	1.0000E+00	N	87%	N		1.5377E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.197E-02)	(0.000E+00)		7%			(0.000E+00)	3.944469		
1	07/24/06 16:14	RA-228	32	312	GPC7A	1	N	N	5.1780E-01	1.0000E+00	N	87%	N		1.7059E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.197E-02)	(0.000E+00)		7%			(0.000E+00)	3.944469		
2	07/24/06 17:10	RA-228	39	312	GPC7A	1	N	N	5.1780E-01	1.0000E+00	N	87%	N		1.8924E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.197E-02)	(0.000E+00)		7%			(0.000E+00)	3.944469		
3	07/25/06 07:07	RA-228	46	301	GPC7A	1	N	N	5.1780E-01	1.0000E+00	N	87%	N		9.1237E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.197E-02)	(0.000E+00)		7%			(0.000E+00)	3.944469		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.122201**	U4	2.00000E-02	0.067987	0.067987	1.00 SA	87%		3.87978		
				(0.818701)		(1.3398E-01)	(0.455472)	(0.455472)	(0.027062)			1.775362		
	07/25/06	RA-228	R	**-0.948983**	U4	-1.40000E-01	-0.527972	-0.527972	1.00 SA	87%		4.304211		
				(0.828782)		(1.2145E-01)	(0.460119)	(0.460119)	(0.027062)			1.969579		
	07/25/06	RA-228	R	**0.00E00**	U4	0.00000E+00	0.00E00	0.00E00	1.00 SA	87%		4.774924		
				(0.996189)		(1.3248E-01)	(0.554235)	(0.554235)	(0.027062)			2.184974		
	07/25/06	RA-228	A	**-0.275594**	U4	-4.00000E-02	-0.153328	-0.153328	1.00 SA	87%		2.493944		
				(0.510941)		(7.4722E-02)	(0.284085)	(0.284085)	(0.015624)			1.141213		
	07/25/06	RA-228	R	**6.072513**	U4	1.67500E-01	3.378475	3.378475	1.00 SA	87%		22.646113		
				(5.199165)		(1.4241E-01)	(2.886199)	(2.886199)	(0.027062)			10.346722		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MXV1AD**	**PCI/SA**		06/12/06 15:45	07/25/06 07:07	07/17/06 15:12	RATA23262	1	1.00 SA	
536403,P-0669					,J6G030156-2 v4.8.24		FILTER			31.2	07/24/06 11:07	RATA23262 Alq	108%	0.25436 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	48	300	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	98%	N		1.5377E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		8%			(0.000E+00)	3.931429		
1	07/24/06 16:14	RA-228	46	300	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	98%	N		1.7059E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		8%			(0.000E+00)	3.931429		
2	07/24/06 17:10	RA-228	44	300	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	98%	N		1.8924E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.256E-02)	(0.000E+00)		8%			(0.000E+00)	3.931429		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:2

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:40 AM

3	07/25/06 07:07	RA-228	40	285	GPC7B	1	N	N	5.1908E-01	1.0000E+00	N	98%	N	9.1237E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.256E-02)	(0.000E+00)		8%		(0.000E+00)	3.931429		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**1.142685**	U4	2.10000E-01	0.637859	0.637859	1.00 SA	98%		3.39381		
				(0.798335)		(1.4517E-01)	(0.444161)	(0.444161)	(0.027062)			1.550365		
	07/25/06	RA-228	R	**1.026225**	U4	1.70000E-01	0.57285	0.57285	1.00 SA	98%		3.765078		
				(0.865793)		(1.4239E-01)	(0.482196)	(0.482196)	(0.027062)			1.719968		
	07/25/06	RA-228	R	**0.870583**	U4	1.30000E-01	0.485969	0.485969	1.00 SA	98%		4.176831		
				(0.93869)		(1.3955E-01)	(0.523258)	(0.523258)	(0.027062)			1.908065		
	07/25/06	RA-228	A	**1.013164**		1.70000E-01	0.565559	0.565559	1.00 SA	98%		2.18156		
				(0.502004)		(8.2209E-02)	(0.279601)	(0.279601)	(0.015624)			0.996583		
	07/25/06	RA-228	R	**2.825044**	U4	8.75000E-02	1.57697	1.57697	1.00 SA	98%		19.671546		
				(4.31471)		(1.3335E-01)	(2.406848)	(2.406848)	(0.027062)			8.96614		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MXW1AD**	**PCI/SA**		06/12/06 16:45	07/25/06 07:07	07/17/06 15:12	RATA23263	1	1.00 SA	
536403,P-0670					,J6G030156-3 v4.8.24		FILTER			31.4	07/24/06 11:07	RATA23263 Alq	94%	0.251997 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	47	370	GPC7C	1	N	N	5.0637E-01	1.0000E+00	N	86%	N		1.5377E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.968306		
1	07/24/06 16:14	RA-228	51	370	GPC7C	1	N	N	5.0637E-01	1.0000E+00	N	86%	N		1.7059E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.968306		
2	07/24/06 17:10	RA-228	47	370	GPC7C	1	N	N	5.0637E-01	1.0000E+00	N	86%	N		1.8924E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.968306		
3	07/25/06 07:07	RA-228	45	334	GPC7C	1	N	N	5.0637E-01	1.0000E+00	N	86%	N		9.1237E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.090E-02)	(0.000E+00)		7%			(0.000E+00)	3.968306		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.095485**	U4	1.50000E-02	0.052806	0.052806	1.00 SA	86%		4.371083		
				(0.924986)		(1.4530E-01)	(0.511537)	(0.511537)	(0.027062)			2.014229		
	07/25/06	RA-228	R	**0.670891**	U4	9.50000E-02	0.371024	0.371024	1.00 SA	86%		4.849261		
				(1.066425)		(1.5071E-01)	(0.589389)	(0.589389)	(0.027062)			2.234577		
	07/25/06	RA-228	R	**0.117515**	U4	1.50000E-02	0.064989	0.064989	1.00 SA	86%		5.379582		
				(1.138399)		(1.4530E-01)	(0.629559)	(0.629559)	(0.027062)			2.478953		
	07/25/06	RA-228	A	**0.29463**	U4	4.16667E-02	0.16294	0.16294	1.00 SA	86%		2.809757		
				(0.604503)		(8.4943E-02)	(0.334231)	(0.334231)	(0.015624)			1.294758		
	07/25/06	RA-228	R	**2.455078**	U4	6.50000E-02	1.357734	1.357734	1.00 SA	86%		24.743877		
				(5.358898)		(1.4173E-01)	(2.962631)	(2.962631)	(0.027062)			11.355102		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:40 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MXX1AD**	**PCI/SA**		06/12/06 17:50	07/25/06 08:06	07/17/06 15:12	RATA23264	1	1.00 SA	
536403,P-0671					,J6G030156-4 v4.8.24		FILTER			30.8	07/24/06 11:07	RATA23264 Alq	86%	0.251414 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	34	296	GPC1A	1	N	N	5.3028E-01	1.0000E+00	N	77%	N		1.5389E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.447E-02)	(0.000E+00)		6%			(0.000E+00)	3.9775		
1	07/24/06 16:15	RA-228	38	296	GPC1A	1	N	N	5.3028E-01	1.0000E+00	N	77%	N		1.7072E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.447E-02)	(0.000E+00)		6%			(0.000E+00)	3.9775		
2	07/24/06 17:10	RA-228	34	296	GPC1A	1	N	N	5.3028E-01	1.0000E+00	N	77%	N		1.8940E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.447E-02)	(0.000E+00)		6%			(0.000E+00)	3.9775		
3	07/25/06 08:06	RA-228	39	242	GPC1A	1	N	N	5.3028E-01	1.0000E+00	N	77%	N		1.0186E+01	4.5045E-01	1.0116E+00	
			50	400			N		(1.447E-02)	(0.000E+00)		6%			(0.000E+00)	3.9775		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**-0.411141**	U4	-6.00000E-02	-0.226851	-0.226851	1.00 SA	77%		4.247749		
				(0.852762)		(1.2430E-01)	(0.470344)	(0.470344)	(0.027062)			1.939327		
	07/25/06	RA-228	R	**0.152035**	U4	2.00000E-02	0.083887	0.083887	1.00 SA	77%		4.712287		
				(0.992721)		(1.3058E-01)	(0.547724)	(0.547724)	(0.027062)			2.151414		
	07/25/06	RA-228	R	**-0.505999**	U4	-6.00000E-02	-0.279191	-0.279191	1.00 SA	77%		5.227791		
				(1.049512)		(1.2430E-01)	(0.578862)	(0.578862)	(0.027062)			2.38677		
	07/25/06	RA-228	A	**-0.255035**	U4	-3.33333E-02	-0.140718	-0.140718	1.00 SA	77%		2.730449		
				(0.559183)		(7.2992E-02)	(0.308456)	(0.308456)	(0.015624)			1.246598		
	07/25/06	RA-228	R	**7.93719**	U4	1.75000E-01	4.379431	4.379431	1.00 SA	77%		25.657535		
				(5.987991)		(1.3081E-01)	(3.294544)	(3.294544)	(0.027062)			11.606528		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MX31AD**	**PCI/SA**		06/12/06 18:35	07/25/06 08:06	07/17/06 15:12	RATA23265	1	1.00 SA	
536403,P-0672					,J6G030156-5 v4.8.24		FILTER			29.8	07/24/06 11:07	RATA23265 Alq	95%	0.250796 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	33	260	GPC1C	1	N	N	5.2349E-01	1.0000E+00	N	82%	N		1.5389E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.172E-02)	(0.000E+00)		7%			(0.000E+00)	3.987304		
1	07/24/06 16:15	RA-228	28	260	GPC1C	1	N	N	5.2349E-01	1.0000E+00	N	82%	N		1.7072E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.172E-02)	(0.000E+00)		7%			(0.000E+00)	3.987304		
2	07/24/06 17:10	RA-228	31	260	GPC1C	1	N	N	5.2349E-01	1.0000E+00	N	82%	N		1.8940E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.172E-02)	(0.000E+00)		7%			(0.000E+00)	3.987304		
3	07/25/06 08:06	RA-228	31	230	GPC1C	1	N	N	5.2349E-01	1.0000E+00	N	82%	N		1.0186E+01	4.5045E-01	1.0116E+00	
			50	400			N		(1.172E-02)	(0.000E+00)		7%			(0.000E+00)	3.987304		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:5

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:40 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.064838**	U4	1.00000E-02	0.035687	0.035687	1.00 SA	82%		3.788999		
				(0.789478)		(1.2176E-01)	(0.434532)	(0.434532)	(0.027062)			1.71981		
	07/25/06	RA-228	R	**-0.647356**	U4	-9.00000E-02	-0.356311	-0.356311	1.00 SA	82%		4.203368		
				(0.817175)		(1.1325E-01)	(0.449325)	(0.449325)	(0.027062)			1.90789		
	07/25/06	RA-228	R	**-0.239391**	U4	-3.00000E-02	-0.131763	-0.131763	1.00 SA	82%		4.663198		
				(0.945322)		(1.1843E-01)	(0.520261)	(0.520261)	(0.027062)			2.116606		
	07/25/06	RA-228	A	**-0.27397**	U4	-3.66667E-02	-0.150796	-0.150796	1.00 SA	82%		2.435565		
				(0.492689)		(6.8048E-02)	(0.271085)	(0.271085)	(0.015624)			1.105492		
	07/25/06	RA-228	R	**1.931212**	U4	4.50000E-02	1.062958	1.062958	1.00 SA	82%		23.726306		
				(5.052053)		(1.1763E-01)	(2.780044)	(2.780044)	(0.027062)			10.706491		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MX61AD**	**PCI/SA**		06/12/06 19:10	07/25/06 08:06	07/17/06 15:12	RATA23266	1	1.00 SA	
536403,P-0673					,J6G030156-6 v4.8.24		FILTER			30.0	07/24/06 11:07	RATA23266 Alq	83%	0.249832 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:19	RA-228	46	257	GPC1D	1	N	N	5.3224E-01	1.0000E+00	N	72%	N		1.5389E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.369E-02)	(0.000E+00)		6%			(0.000E+00)	4.002685		
1	07/24/06 16:15	RA-228	43	257	GPC1D	1	N	N	5.3224E-01	1.0000E+00	N	72%	N		1.7072E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.369E-02)	(0.000E+00)		6%			(0.000E+00)	4.002685		
2	07/24/06 17:10	RA-228	37	257	GPC1D	1	N	N	5.3224E-01	1.0000E+00	N	72%	N		1.8940E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.369E-02)	(0.000E+00)		6%			(0.000E+00)	4.002685		
3	07/25/06 08:06	RA-228	37	240	GPC1D	1	N	N	5.3224E-01	1.0000E+00	N	72%	N		1.0186E+01	4.5045E-01	1.0115E+00	
			50	400			N		(1.369E-02)	(0.000E+00)		6%			(0.000E+00)	4.002685		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**2.029747**		2.77500E-01	1.112909	1.112909	1.00 SA	72%		4.251965		
				(1.054873)		(1.4144E-01)	(0.574915)	(0.574915)	(0.027062)			1.928908		
	07/25/06	RA-228	R	**1.764864**	U4	2.17500E-01	0.967673	0.967673	1.00 SA	72%		4.716965		
				(1.127079)		(1.3714E-01)	(0.615523)	(0.615523)	(0.027062)			2.139855		
	07/25/06	RA-228	R	**0.877694**	U4	9.75000E-02	0.481239	0.481239	1.00 SA	72%		5.232981		
				(1.15647)		(1.2809E-01)	(0.633501)	(0.633501)	(0.027062)			2.373946		
	07/25/06	RA-228	A	**1.557435**		1.97500E-01	0.85394	0.85394	1.00 SA	72%		2.733159		
				(0.642952)		(7.8329E-02)	(0.351302)	(0.351302)	(0.015624)			1.2399		
	07/25/06	RA-228	R	**6.777919**	U4	1.40000E-01	3.716328	3.716328	1.00 SA	72%		27.285095		
				(6.219187)		(1.2767E-01)	(3.403424)	(3.403424)	(0.027062)			12.337862		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:7

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8MX81AD**	**PCI/SA**		06/12/06 14:35	07/25/06 07:07	07/17/06 15:12	RATA23267	1	1.00 SA	
536403,P-0674					,J6G030156-7 v4.8.24		FILTER			31.2	07/24/06 11:07	RATA23267 Alq	97%	0.251365 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:20	RA-228	29	106	GPC2A	1	N	N	4.2708E-01	1.0000E+00	N	88%	N		1.5409E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.182E-02)	(0.000E+00)		7%			(0.000E+00)	3.978281		
1	07/24/06 16:15	RA-228	25	106	GPC2A	1	N	N	4.2708E-01	1.0000E+00	N	88%	N		1.7094E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.182E-02)	(0.000E+00)		7%			(0.000E+00)	3.978281		
2	07/24/06 17:11	RA-228	26	106	GPC2A	1	N	N	4.2708E-01	1.0000E+00	N	88%	N		1.8964E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.182E-02)	(0.000E+00)		7%			(0.000E+00)	3.978281		
3	07/25/06 07:07	RA-228	21	90	GPC2A	1	N	N	4.2708E-01	1.0000E+00	N	88%	N		9.1289E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.182E-02)	(0.000E+00)		7%			(0.000E+00)	3.978281		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**2.350996**		3.15000E-01	1.296875	1.296875	1.00 SA	88%		2.931096		
				(0.860546)		(1.1074E-01)	(0.46894)	(0.46894)	(0.027062)			1.264038		
	07/25/06	RA-228	R	**1.945789**		2.35000E-01	1.073351	1.073351	1.00 SA	88%		3.251745		
				(0.877705)		(1.0326E-01)	(0.480305)	(0.480305)	(0.027062)			1.402319		
	07/25/06	RA-228	R	**2.342291**		2.55000E-01	1.292073	1.292073	1.00 SA	88%		3.60736		
				(0.995199)		(1.0518E-01)	(0.544043)	(0.544043)	(0.027062)			1.555678		
	07/25/06	RA-228	A	**2.213025**		2.68333E-01	1.220767	1.220767	1.00 SA	88%		1.884125		
				(0.527186)		(6.1452E-02)	(0.288016)	(0.288016)	(0.015624)			0.812531		
	07/25/06	RA-228	R	**8.6225**		1.95000E-01	4.756412	4.756412	1.00 SA	88%		16.189583		
				(4.277479)		(9.4670E-02)	(2.34403)	(2.34403)	(0.027062)			6.900582		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M0K1AD**	**PCI/SA**		06/14/06 01:00	07/25/06 07:07	07/17/06 15:12	RATA23268	1	1.00 SA	
536403,000494					,J6G030156-8 v4.8.24		FILTER			30.3)	07/24/06 11:07	RATA23268 Alq	91%	0.254312 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:20	RA-228	33	112	GPC2B	1	N	N	4.4593E-01	1.0000E+00	N	80%	N		1.5409E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(1.052E-02)	(0.000E+00)		6%			(0.000E+00)	3.932172		
1	07/24/06 16:15	RA-228	22	112	GPC2B	1	N	N	4.4593E-01	1.0000E+00	N	80%	N		1.7094E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(1.052E-02)	(0.000E+00)		6%			(0.000E+00)	3.932172		
2	07/24/06 17:11	RA-228	24	112	GPC2B	1	N	N	4.4593E-01	1.0000E+00	N	80%	N		1.8964E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(1.052E-02)	(0.000E+00)		6%			(0.000E+00)	3.932172		
3	07/25/06 07:07	RA-228	21	100	GPC2B	1	N	N	4.4593E-01	1.0000E+00	N	80%	N		9.1289E+00	4.5045E-01	1.0111E+00	
			50	400			N		(1.052E-02)	(0.000E+00)		6%			(0.000E+00)	3.932172		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191221 — Alpha Beta, Ra-228 by GPC , Calculated Results — 7/25/2006 8:27:41 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**2.923256**		3.80000E-01	1.63223	1.63223	1.00 SA	80%		3.093837		
				(0.953758)		(1.1790E-01)	(0.524393)	(0.524393)	(0.027062)			1.339239		
	07/25/06	RA-228	R	**1.365494**	U4	1.60000E-01	0.762437	0.762437	1.00 SA	80%		3.43229		
				(0.843166)		(9.7468E-02)	(0.468791)	(0.468791)	(0.027062)			1.485747		
	07/25/06	RA-228	R	**1.893532**		2.00000E-01	1.057273	1.057273	1.00 SA	80%		3.807649		
				(0.979688)		(1.0149E-01)	(0.543706)	(0.543706)	(0.027062)			1.648229		
	07/25/06	RA-228	A	**2.060761**		2.46667E-01	1.150647	1.150647	1.00 SA	80%		1.988736		
				(0.535451)		(6.1192E-02)	(0.296342)	(0.296342)	(0.015624)			0.860871		
	07/25/06	RA-228	R	**7.747998**		1.70000E-01	4.326173	4.326173	1.00 SA	80%		17.455995		
				(4.39983)		(9.5000E-02)	(2.444346)	(2.444346)	(0.027062)			7.497327		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M0Q1AD**	**PCI/SA**		06/14/06 01:00	07/25/06 07:07	07/17/06 15:12	RATA23269	1	1.00 SA	
536403,000495					,J6G030156-9 v4.8.24		FILTER			30.9	07/24/06 11:07	RATA23269 Alq	99%	0.25156 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:20	RA-228	23	92	GPC2C	1	N	N	4.3069E-01	1.0000E+00	N	89%	N		1.5409E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(9.367E-03)	(0.000E+00)		7%			(0.000E+00)	3.97519		
1	07/24/06 16:15	RA-228	17	92	GPC2C	1	N	N	4.3069E-01	1.0000E+00	N	89%	N		1.7094E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(9.367E-03)	(0.000E+00)		7%			(0.000E+00)	3.97519		
2	07/24/06 17:11	RA-228	16	92	GPC2C	1	N	N	4.3069E-01	1.0000E+00	N	89%	N		1.8964E+00	4.5045E-01	1.0111E+00	
			50	400			Y		(9.367E-03)	(0.000E+00)		7%			(0.000E+00)	3.97519		
3	07/25/06 07:07	RA-228	8	101	GPC2C	1	N	N	4.3069E-01	1.0000E+00	N	89%	N		9.1289E+00	4.5045E-01	1.0111E+00	
			50	400			N		(9.367E-03)	(0.000E+00)		7%			(0.000E+00)	3.97519		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**1.66809**		2.30000E-01	0.921316	0.921316	1.00 SA	89%		2.680391		
				(0.736397)		(9.8869E-02)	(0.403338)	(0.403338)	(0.027062)			1.14433		
	07/25/06	RA-228	R	**0.885056**	U4	1.10000E-01	0.488832	0.488832	1.00 SA	89%		2.973614		
				(0.696674)		(8.5878E-02)	(0.383781)	(0.383781)	(0.027062)			1.269515		
	07/25/06	RA-228	R	**0.803329**	U4	9.00000E-02	0.443693	0.443693	1.00 SA	89%		3.298812		
				(0.749819)		(8.3516E-02)	(0.41337)	(0.41337)	(0.027062)			1.408351		
	07/25/06	RA-228	A	**1.118825**		1.43333E-01	0.617947	0.617947	1.00 SA	89%		1.72297		
				(0.420299)		(5.1774E-02)	(0.231143)	(0.231143)	(0.015624)			0.735582		
	07/25/06	RA-228	R	**-3.974574**	U4	-9.25000E-02	-2.195228	-2.195228	1.00 SA	89%		16.52755		
				(2.689461)		(6.1897E-02)	(1.480185)	(1.480185)	(0.027062)			7.10355		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:10

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M0V1AD**	**PCI/SA**		06/13/06 04:00	07/25/06 07:07	07/17/06 15:12	RATA23270	1	1.00 SA	
536403,000496					,J6G030156-10 v4.8.24		FILTER			31.1	07/24/06 11:07	RATA23270 Alq	98%	0.250405 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:20	RA-228	28	120	GPC2D	1	N	N	4.3783E-01	1.0000E+00	N	88%	N		1.5409E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	3.993533		
1	07/24/06 16:15	RA-228	13	120	GPC2D	1	N	N	4.3783E-01	1.0000E+00	N	88%	N		1.7094E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	3.993533		
2	07/24/06 17:11	RA-228	19	120	GPC2D	1	N	N	4.3783E-01	1.0000E+00	N	88%	N		1.8964E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	3.993533		
3	07/25/06 07:07	RA-228	19	81	GPC2D	1	N	N	4.3783E-01	1.0000E+00	N	88%	N		9.1289E+00	4.5045E-01	1.0114E+00	
			50	400			N		(1.309E-02)	(0.000E+00)		7%			(0.000E+00)	3.993533		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**1.885019**		2.60000E-01	1.036049	1.036049	1.00 SA	88%		3.00434		
				(0.815804)		(1.0932E-01)	(0.444498)	(0.444498)	(0.027062)			1.306469		
	07/25/06	RA-228	R	**-0.321728**	U4	-4.00000E-02	-0.176829	-0.176829	1.00 SA	88%		3.333002		
				(0.6213)		(7.7136E-02)	(0.341332)	(0.341332)	(0.027062)			1.449391		
	07/25/06	RA-228	R	**0.713825**	U4	8.00000E-02	0.392334	0.392334	1.00 SA	88%		3.697503		
				(0.818634)		(9.1378E-02)	(0.449387)	(0.449387)	(0.027062)			1.607898		
	07/25/06	RA-228	A	**0.759039**		1.00000E-01	0.417185	0.417185	1.00 SA	88%		1.931207		
				(0.43738)		(5.4006E-02)	(0.239452)	(0.239452)	(0.015624)			0.839805		
	07/25/06	RA-228	R	**7.624266**		1.77500E-01	4.190467	4.190467	1.00 SA	88%		15.039099		
				(3.94563)		(9.0035E-02)	(2.15548)	(2.15548)	(0.027062)			6.359282		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M051AD**	**PCI/SA**		06/13/06 14:00	07/25/06 07:07	07/17/06 15:12	RATA23271	1	1.00 SA	
536403,000497					,J6G030156-11 v4.8.24		FILTER			30.6	07/24/06 11:07	RATA23271 Alq	96%	0.24894 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	19	87	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	85%	N		1.5424E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.017031		
1	07/24/06 16:16	RA-228	15	87	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	85%	N		1.7111E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.017031		
2	07/24/06 17:11	RA-228	15	87	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	85%	N		1.8983E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.017031		
3	07/25/06 07:07	RA-228	15	71	GPC3A	1	N	N	4.6800E-01	1.0000E+00	N	85%	N		9.1317E+00	4.5045E-01	1.0113E+00	
			50	400			N		(1.324E-02)	(0.000E+00)		7%			(0.000E+00)	4.017031		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:11

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**1.147008**		1.62500E-01	0.62682	0.62682	1.00 SA	85%		2.547336		
				(0.647664)		(9.0243E-02)	(0.352138)	(0.352138)	(0.027062)			1.083026		
	07/25/06	RA-228	R	**0.646031**	U4	8.25000E-02	0.353045	0.353045	1.00 SA	85%		2.826004		
				(0.636879)		(8.0893E-02)	(0.347464)	(0.347464)	(0.027062)			1.201504		
	07/25/06	RA-228	R	**0.716705**	U4	8.25000E-02	0.391666	0.391666	1.00 SA	85%		3.135157		
				(0.706551)		(8.0893E-02)	(0.385475)	(0.385475)	(0.027062)			1.332943		
	07/25/06	RA-228	A	**0.836581**		1.09167E-01	0.457177	0.457177	1.00 SA	85%		1.637461		
				(0.383594)		(4.8570E-02)	(0.209052)	(0.209052)	(0.015624)			0.696183		
	07/25/06	RA-228	R	**5.119262**	U4	1.22500E-01	2.797586	2.797586	1.00 SA	85%		13.843142		
				(3.395108)		(8.0273E-02)	(1.848536)	(1.848536)	(0.027062)			5.792504		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M081AD**	**PCI/SA**		06/13/06 12:00	07/25/06 07:07	07/17/06 15:12	RATA23272	1	1.00 SA	
536403,000498					,J6G030156-12 v4.8.24		FILTER			29.9	07/24/06 11:07	RATA23272 Alq	93%	0.249464 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	30	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	81%	N		1.5424E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	4.008595		
1	07/24/06 16:16	RA-228	24	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	81%	N		1.7111E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	4.008595		
2	07/24/06 17:11	RA-228	26	93	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	81%	N		1.8983E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	4.008595		
3	07/25/06 07:07	RA-228	35	96	GPC3B	1	N	N	4.7930E-01	1.0000E+00	N	81%	N		9.1317E+00	4.5045E-01	1.0113E+00	
			50	400			N		(1.181E-02)	(0.000E+00)		6%			(0.000E+00)	4.008595		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**2.675058**		3.67500E-01	1.464908	1.464908	1.00 SA	81%		2.702629		
				(0.860166)		(1.1217E-01)	(0.46362)	(0.46362)	(0.027062)			1.154737		
	07/25/06	RA-228	R	**1.998654**		2.47500E-01	1.094498	1.094498	1.00 SA	81%		2.998285		
				(0.839545)		(1.0090E-01)	(0.455519)	(0.455519)	(0.027062)			1.281061		
	07/25/06	RA-228	R	**2.575649**		2.87500E-01	1.41047	1.41047	1.00 SA	81%		3.326285		
				(0.974309)		(1.0479E-01)	(0.527488)	(0.527488)	(0.027062)			1.421203		
	07/25/06	RA-228	A	**2.416454**		3.00833E-01	1.323292	1.323292	1.00 SA	81%		1.737285		
				(0.515752)		(6.1232E-02)	(0.279023)	(0.279023)	(0.015624)			0.74228		
	07/25/06	RA-228	R	**19.824022**		4.60000E-01	10.855981	10.855981	1.00 SA	81%		16.21956		
				(5.580281)		(1.2083E-01)	(2.992881)	(2.992881)	(0.027062)			6.946011		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:13

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M1C1AD**	**PCI/SA**		06/13/06 13:00	07/25/06 07:07	07/17/06 15:12	RATA23273	1	1.00 SA	
536403,000499					,J6G030156-13 v4.8.24		FILTER			29.6	07/24/06 11:07	RATA23273 Alq	99%	0.24731 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	35	126	GPC3C	1	N	N	4.7209E-01	1.0000E+00	N	85%	N		1.5424E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.043501		
1	07/24/06 16:16	RA-228	27	126	GPC3C	1	N	N	4.7209E-01	1.0000E+00	N	85%	N		1.7111E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.043501		
2	07/24/06 17:11	RA-228	18	126	GPC3C	1	N	N	4.7209E-01	1.0000E+00	N	85%	N		1.8983E+00	4.5045E-01	1.0113E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.043501		
3	07/25/06 07:07	RA-228	20	111	GPC3C	1	N	N	4.7209E-01	1.0000E+00	N	85%	N		9.1317E+00	4.5045E-01	1.0113E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		7%			(0.000E+00)	4.043501		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**2.72728**		3.85000E-01	1.480634	1.480634	1.00 SA	85%		2.998466		
				(0.904298)		(1.2160E-01)	(0.48367)	(0.48367)	(0.027062)			1.308037		
	07/25/06	RA-228	R	**1.768227**		2.25000E-01	0.959966	0.959966	1.00 SA	85%		3.326486		
				(0.864565)		(1.0765E-01)	(0.466186)	(0.466186)	(0.027062)			1.451131		
	07/25/06	RA-228	R	**0.392333**	**U4**	4.50000E-02	0.212996	0.212996	1.00 SA	85%		3.690389		
				(0.780202)		(8.9373E-02)	(0.423397)	(0.423397)	(0.027062)			1.609879		
	07/25/06	RA-228	A	**1.62928**		2.18333E-01	0.884532	0.884532	1.00 SA	85%		1.927453		
				(0.491477)		(6.1790E-02)	(0.264687)	(0.264687)	(0.015624)			0.840824		
	07/25/06	RA-228	R	**5.137635**	**U4**	1.22500E-01	2.789209	2.789209	1.00 SA	85%		16.801835		
				(3.944686)		(9.3240E-02)	(2.135681)	(2.135681)	(0.027062)			7.268663		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M1E1AD**	**PCI/SA**		06/13/06 09:00	07/25/06 07:07	07/17/06 15:12	RATA23274	1	1.00 SA	
536403,000500					,J6G030156-14 v4.8.24		FILTER			30.2	07/24/06 11:07	RATA23274 Alq	96%	0.259078 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	18	100	GPC3D	1	N	N	4.6812E-01	1.0000E+00	N	84%	N		1.5424E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.859844		
1	07/24/06 16:16	RA-228	18	100	GPC3D	1	N	N	4.6812E-01	1.0000E+00	N	84%	N		1.7111E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.859844		
2	07/24/06 17:11	RA-228	17	100	GPC3D	1	N	N	4.6812E-01	1.0000E+00	N	84%	N		1.8983E+00	4.5045E-01	1.0114E+00	
			50	400			Y		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.859844		
3	07/25/06 07:07	RA-228	6	106	GPC3D	1	N	N	4.6812E-01	1.0000E+00	N	84%	N		9.1317E+00	4.5045E-01	1.0114E+00	
			50	400			N		(1.145E-02)	(0.000E+00)		7%			(0.000E+00)	3.859844		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:14

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.758953**	U4	1.10000E-01	0.431615	0.431615	1.00 SA	84%		2.642568		
				(0.615138)		(8.8459E-02)	(0.348966)	(0.348966)	(0.027062)			1.13498		
	07/25/06	RA-228	R	**0.841979**	U4	1.10000E-01	0.478832	0.478832	1.00 SA	84%		2.931654		
				(0.682432)		(8.8459E-02)	(0.387142)	(0.387142)	(0.027062)			1.259142		
	07/25/06	RA-228	R	**0.764254**	U4	9.00000E-02	0.43463	0.43463	1.00 SA	84%		3.252365		
				(0.73579)		(8.6168E-02)	(0.417712)	(0.417712)	(0.027062)			1.396887		
	07/25/06	RA-228	A	**0.788395**		1.03333E-01	0.448359	0.448359	1.00 SA	84%		1.698678		
				(0.392357)		(5.0635E-02)	(0.222646)	(0.222646)	(0.015624)			0.72958		
	07/25/06	RA-228	R	**-5.92309**	U4	-1.45000E-01	-3.36845	-3.36845	1.00 SA	84%		16.042387		
				(2.338616)		(5.5340E-02)	(1.316106)	(1.316106)	(0.027062)			6.918296		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8M1G1AD**	**PCI/SA**		06/13/06 00:00	07/25/06 07:08	07/17/06 15:12	RATA23275	1	1.00 SA	
536403,000501					,J6G030156-15 v4.8.24		FILTER			31.7	07/24/06 11:07	RATA23275 Alq	102%	0.248687 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	32	201	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.5437E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.021125		
1	07/24/06 16:16	RA-228	34	201	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.7125E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.021125		
2	07/24/06 17:12	RA-228	27	201	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		1.8999E+00	4.5045E-01	1.0115E+00	
			50	400			Y		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.021125		
3	07/25/06 07:08	RA-228	20	188	GPC4A	1	N	N	4.8160E-01	1.0000E+00	N	94%	N		9.1343E+00	4.5045E-01	1.0115E+00	
			50	400			N		(1.103E-02)	(0.000E+00)		8%			(0.000E+00)	4.021125		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.856187**	U4	1.37500E-01	0.467325	0.467325	1.00 SA	94%		3.240192		
				(0.743271)		(1.1856E-01)	(0.404822)	(0.404822)	(0.027062)			1.452212		
	07/25/06	RA-228	R	**1.226171**	U4	1.77500E-01	0.66927	0.66927	1.00 SA	94%		3.594656		
				(0.85101)		(1.2189E-01)	(0.462938)	(0.462938)	(0.027062)			1.611078		
	07/25/06	RA-228	R	**0.287389**	U4	3.75000E-02	0.156863	0.156863	1.00 SA	94%		3.987896		
				(0.841981)		(1.0980E-01)	(0.459484)	(0.459484)	(0.027062)			1.787323		
	07/25/06	RA-228	A	**0.789916**		1.17500E-01	0.431153	0.431153	1.00 SA	94%		2.082838		
				(0.469705)		(6.7469E-02)	(0.25589)	(0.25589)	(0.015624)			0.933501		
	07/25/06	RA-228	R	**-2.579236**	U4	-7.00000E-02	-1.407801	-1.407801	1.00 SA	94%		18.608604		
				(3.53892)		(9.5786E-02)	(1.929958)	(1.929958)	(0.027062)			8.310704		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:16

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8W141AA**	**PCI/SA**	**B**	06/12/06 14:25	07/25/06 07:08	07/17/06 15:12	RATA23276	1	1.00 SA	
0,INTRA-LAB BLANK					,J6G100000-221		FILTER			30.8	07/24/06 11:07	RATA23276 Alq	103%	1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	20	100	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	92%	N		1.5437E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
1	07/24/06 16:16	RA-228	43	100	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	92%	N		1.7125E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
2	07/24/06 17:12	RA-228	17	100	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	92%	N		1.8999E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		
3	07/25/06 07:08	RA-228	9	103	GPC4B	1	N	N	4.6215E-01	1.0000E+00	N	92%	N		9.1343E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.048E-02)	(0.000E+00)		7%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**0.247326**	**U4**	1.50000E-01	0.542763	0.542763	1.00 SA	92%		0.631513		
				(0.155057)		(9.2871E-02)	(0.339063)	(0.339063)	(0.017321)			0.271234		
	07/25/06	RA-228	R	**1.115821**		6.10000E-01	2.448697	2.448697	1.00 SA	92%		0.700598		
				(0.267838)		(1.3351E-01)	(0.573318)	(0.573318)	(0.017321)			0.300906		
	07/25/06	RA-228	R	**0.182639**	**U4**	9.00000E-02	0.400806	0.400806	1.00 SA	92%		0.77724		
				(0.175788)		(8.6168E-02)	(0.385187)	(0.385187)	(0.017321)			0.333824		
	07/25/06	RA-228	A	**0.515262**		2.83333E-01	1.130755	1.130755	1.00 SA	92%		0.405945		
				(0.118641)		(6.1351E-02)	(0.256477)	(0.256477)	(0.01)			0.174353		
	07/25/06	RA-228	R	**-0.756148**	**U4**	-7.75000E-02	-1.659386	-1.659386	1.00 SA	92%		3.784645		
				(0.639948)		(6.5144E-02)	(1.401636)	(1.401636)	(0.017321)			1.628882		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	TF	FILTER	*STLE	Ra228WoBS	**H8W141AC**	**PCI/SA**	**S**	06/12/06 14:25	07/25/06 07:08	07/17/06 15:12	RASC4141	1	1.00 SA	
0,INTRA-LAB CHECK					,J6G100000-221		FILTER			31.0	07/24/06 11:07	RASC4141 Alq	110%	1.00 SA	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
0	07/24/06 15:21	RA-228	131	101	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	99%	N		1.5437E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		
1	07/24/06 16:16	RA-228	148	101	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	99%	N		1.7125E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		
2	07/24/06 17:12	RA-228	109	101	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	99%	N		1.8999E+00	4.5045E-01	1.0116E+00	
			50	400			Y		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		
3	07/25/06 07:08	RA-228	35	96	GPC4C	1	N	N	4.6870E-01	1.0000E+00	N	99%	N		9.1343E+00	4.5045E-01	1.0116E+00	
			50	400			N		(1.147E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191221

Alpha Beta, Ra-228 by GPC , Calculated Results

7/25/2006 8:27:41 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/25/06	RA-228	R	**3.580419**		2.36750E+00	7.857322	7.857322	1.00 SA	99%	71%	0.581706		
				(0.4969)		(2.3029E-01)	(1.008085)	(1.008085)	(0.017321)			0.250018		
	07/25/06	RA-228	R	**4.542541**		2.70750E+00	9.968724	9.968724	1.00 SA	99%	90%	0.645342		
				(0.608788)		(2.4460E-01)	(1.227456)	(1.227456)	(0.017321)			0.277368		
	07/25/06	RA-228	R	**3.58766**		1.92750E+00	7.873213	7.873213	1.00 SA	99%	71%	0.71594		
				(0.528551)		(2.1031E-01)	(1.082519)	(1.082519)	(0.017321)			0.307711		
	07/25/06	RA-228	A	**3.90354**		2.33417E+00	8.56642	8.56642	1.00 SA	99%	77%	0.373928		
				(0.315682)		(1.3212E-01)	(0.640723)	(0.640723)	(0.01)			0.160715		
	07/25/06	RA-228	R	**4.116505**		4.60000E-01	9.033778	9.033778	1.00 SA	99%	82%	3.36803		
				(1.155539)		(1.2083E-01)	(2.490398)	(2.490398)	(0.017321)			1.442356		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

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Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.24

STL Richland

UST Number: H8MXT1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H8MXT1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2958

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00040	0050	01155	1700	24-JUL-2006 15:19:31.70
2	00000	00032	0050	01142	1700	24-JUL-2006 16:14:47.35
3	00000	00039	0050	01141	1700	24-JUL-2006 17:10:02.92

Bkg File: [quad7.bkgrnd]2006-07-23_1737.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00312	0400	0.78	09164	1700	23-JUL-2006 17:37:52.28

UST Number: H8MXT1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-A File: [quad7.sample.A]H8MXT1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.A_1;2959

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01152	1700	25-JUL-2006 07:07:26.52

Bkg File: [quad7.bkgrnd]2006-07-25_0351.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00301	0400	0.75	09194	1700	25-JUL-2006 03:51:51.50

UST Number: H8MXV1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H8MXV1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2945

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00048	0050	01155	1700	24-JUL-2006 15:19:31.70
2	00000	00046	0050	01142	1700	24-JUL-2006 16:14:47.35
3	00000	00044	0050	01141	1700	24-JUL-2006 17:10:02.92

Bkg File: [quad7.bkgrnd]2006-07-23_1737.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00300	0400	0.75	09164	1700	23-JUL-2006 17:37:52.28

UST Number: H8MXV1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-B File: [quad7.sample.B]H8MXV1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.B_1;2946

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00040	0050	01152	1700	25-JUL-2006 07:07:26.52

Bkg File: [quad7.bkgrnd]2006-07-25_0351.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00285	0400	0.71	09194	1700	25-JUL-2006 03:51:51.50

UST Number: H8MXW1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H8MXW1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2950

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00047	0050	01155	1700	24-JUL-2006 15:19:31.70
2	00000	00051	0050	01142	1700	24-JUL-2006 16:14:47.35
3	00000	00047	0050	01141	1700	24-JUL-2006 17:10:02.92

Bkg File: [quad7.bkgrnd]2006-07-23_1737.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00370	0400	0.93	09164	1700	23-JUL-2006 17:37:52.28

UST Number: H8MXW1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 7-C File: [quad7.sample.C]H8MXW1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD7.BKGRND]CURRENT.C_1;2951

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00045	0050	01152	1700	25-JUL-2006 07:07:26.52

Bkg File: [quad7.bkgrnd]2006-07-25_0351.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00334	0400	0.84	09194	1700	25-JUL-2006 03:51:51.50

UST Number: H8MXX1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H8MXX1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3006

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00034	0050	01145	1650	24-JUL-2006 15:19:57.07
2	00000	00038	0050	01155	1650	24-JUL-2006 16:15:12.63
3	00000	00034	0050	01169	1650	24-JUL-2006 17:10:28.34

Bkg File: [quad1.bkgrnd]2006-07-23_1736.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00296	0400	0.74	09227	1650	23-JUL-2006 17:36:02.97

UST Number: H8MXX1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-A File: [quad1.sample.A]H8MXX1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.A_1;3007

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00039	0050	01158	1650	25-JUL-2006 08:06:04.96

Bkg File: [quad1.bkgrnd]2006-07-25_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00242	0400	0.61	09296	1650	25-JUL-2006 03:55:40.80

UST Number: H8MX31AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H8MX31AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3002

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01145	1650	24-JUL-2006 15:19:57.07
2	00000	00028	0050	01155	1650	24-JUL-2006 16:15:12.63
3	00000	00031	0050	01169	1650	24-JUL-2006 17:10:28.34

Bkg File: [quad1.bkgrnd]2006-07-23_1736.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00260	0400	0.65	09227	1650	23-JUL-2006 17:36:02.97

UST Number: H8MX31AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-C File: [quad1.sample.C]H8MX31AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.C_1;3003

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00031	0050	01158	1650	25-JUL-2006 08:06:04.96

Bkg File: [quad1.bkgrnd]2006-07-25_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00230	0400	0.58	09296	1650	25-JUL-2006 03:55:40.80

UST Number: H8MX61AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H8MX61AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3005

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00046	0050	01145	1650	24-JUL-2006 15:19:57.07
2	00000	00043	0050	01155	1650	24-JUL-2006 16:15:12.63
3	00000	00037	0050	01169	1650	24-JUL-2006 17:10:28.34

Bkg File: [quad1.bkgrnd]2006-07-23_1736.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00257	0400	0.64	09227	1650	23-JUL-2006 17:36:02.97

UST Number: H8MX61AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 1-D File: [quad1.sample.D]H8MX61AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD1.BKGRND]CURRENT.D_1;3006

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00037	0050	01158	1650	25-JUL-2006 08:06:04.96

Bkg File: [quad1.bkgrnd]2006-07-25_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00240	0400	0.60	09296	1650	25-JUL-2006 03:55:40.80

UST Number: H8MX81AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H8MX81AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3548

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00029	0050	01165	1810	24-JUL-2006 15:20:37.38
2	00000	00025	0050	01165	1810	24-JUL-2006 16:15:53.10
3	00000	00026	0050	01168	1810	24-JUL-2006 17:11:08.71

Bkg File: [quad2.bkgrnd]2006-07-23_1736.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	09295	1810	23-JUL-2006 17:36:00.55

UST Number: H8MX81AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-A File: [quad2.sample.A]H8MX81AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.A_1;3549

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00021	0050	01159	1810	25-JUL-2006 07:07:44.69

Bkg File: [quad2.bkgrnd]2006-07-25_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00090	0400	0.23	09370	1810	25-JUL-2006 03:55:44.35

UST Number: H8M0K1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H8M0K1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3545

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00033	0050	01165	1810	24-JUL-2006 15:20:37.38
2	00000	00022	0050	01165	1810	24-JUL-2006 16:15:53.10
3	00000	00024	0050	01168	1810	24-JUL-2006 17:11:08.71

Bkg File: [quad2.bkgrnd]2006-07-23_1736.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00112	0400	0.28	09295	1810	23-JUL-2006 17:36:00.55

UST Number: H8M0K1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-B File: [quad2.sample.B]H8M0K1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.B_1;3546

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00021	0050	01159	1810	25-JUL-2006 07:07:44.69

Bkg File: [quad2.bkgrnd]2006-07-25_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00100	0400	0.25	09370	1810	25-JUL-2006 03:55:44.35

UST Number: H8M0Q1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H8M0Q1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3546

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00023	0050	01165	1810	24-JUL-2006 15:20:37.38
2	00000	00017	0050	01165	1810	24-JUL-2006 16:15:53.10
3	00000	00016	0050	01168	1810	24-JUL-2006 17:11:08.71

Bkg File: [quad2.bkgrnd]2006-07-23_1736.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00092	0400	0.23	09295	1810	23-JUL-2006 17:36:00.55

UST Number: H8M0Q1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-C File: [quad2.sample.C]H8M0Q1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.C_1;3547

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00008	0050	01159	1810	25-JUL-2006 07:07:44.69

Bkg File: [quad2.bkgrnd]2006-07-25_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09370	1810	25-JUL-2006 03:55:44.35

UST Number: H8M0V1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H8M0V1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3545

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00028	0050	01165	1810	24-JUL-2006 15:20:37.38
2	00000	00013	0050	01165	1810	24-JUL-2006 16:15:53.10
3	00000	00019	0050	01168	1810	24-JUL-2006 17:11:08.71

Bkg File: [quad2.bkgrnd]2006-07-23_1736.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00120	0400	0.30	09295	1810	23-JUL-2006 17:36:00.55

UST Number: H8M0V1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 2-D File: [quad2.sample.D]H8M0V1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD2.BKGRND]CURRENT.D_1;3546

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01159	1810	25-JUL-2006 07:07:44.69

Bkg File: [quad2.bkgrnd]2006-07-25_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00081	0400	0.20	09370	1810	25-JUL-2006 03:55:44.35

UST Number: H8M051AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H8M051AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5461

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00019	0050	01289	1920	24-JUL-2006 15:21:09.77
2	00000	00015	0050	01283	1920	24-JUL-2006 16:16:25.55
3	00000	00015	0050	01291	1920	24-JUL-2006 17:11:41.21

Bkg File: [quad3.bkgrnd]2006-07-23_1731.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00087	0400	0.22	10165	1920	23-JUL-2006 17:31:07.41

UST Number: H8M051AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-A File: [quad3.sample.A]H8M051AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.A_1;5462

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00015	0050	01267	1920	25-JUL-2006 07:07:54.91

Bkg File: [quad3.bkgrnd]2006-07-25_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00071	0400	0.18	10204	1920	25-JUL-2006 03:55:49.89

UST Number: H8M081AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H8M081AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5470

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00030	0050	01289	1920	24-JUL-2006 15:21:09.77
2	00000	00024	0050	01283	1920	24-JUL-2006 16:16:25.55
3	00000	00026	0050	01291	1920	24-JUL-2006 17:11:41.21

Bkg File: [quad3.bkgrnd]2006-07-23_1731.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00093	0400	0.23	10165	1920	23-JUL-2006 17:31:07.41

UST Number: H8M081AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-B File: [quad3.sample.B]H8M081AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.B_1;5471

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01267	1920	25-JUL-2006 07:07:54.91

Bkg File: [quad3.bkgrnd]2006-07-25_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	10204	1920	25-JUL-2006 03:55:49.89

UST Number: H8M1C1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H8M1C1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5475

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01289	1920	24-JUL-2006 15:21:09.77
2	00000	00027	0050	01283	1920	24-JUL-2006 16:16:25.55
3	00000	00018	0050	01291	1920	24-JUL-2006 17:11:41.21

Bkg File: [quad3.bkgrnd]2006-07-23_1731.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00126	0400	0.32	10165	1920	23-JUL-2006 17:31:07.41

UST Number: H8M1C1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-C File: [quad3.sample.C]H8M1C1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.C_1;5476

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01267	1920	25-JUL-2006 07:07:54.91

Bkg File: [quad3.bkgrnd]2006-07-25_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00111	0400	0.28	10204	1920	25-JUL-2006 03:55:49.89

UST Number: H8M1E1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H8M1E1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5455

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00018	0050	01289	1920	24-JUL-2006 15:21:09.77
2	00000	00018	0050	01283	1920	24-JUL-2006 16:16:25.55
3	00000	00017	0050	01291	1920	24-JUL-2006 17:11:41.21

Bkg File: [quad3.bkgrnd]2006-07-23_1731.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00100	0400	0.25	10165	1920	23-JUL-2006 17:31:07.41

UST Number: H8M1E1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 3-D File: [quad3.sample.D]H8M1E1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD3.BKGRND]CURRENT.D_1;5456

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00006	0050	01267	1920	25-JUL-2006 07:07:54.91

Bkg File: [quad3.bkgrnd]2006-07-25_0355.D_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00106	0400	0.27	10204	1920	25-JUL-2006 03:55:49.89

UST Number: H8M1G1AD Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H8M1G1AD.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5480

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00032	0050	01218	1850	24-JUL-2006 15:21:35.82
2	00000	00034	0050	01194	1850	24-JUL-2006 16:16:51.39
3	00000	00027	0050	01224	1850	24-JUL-2006 17:12:07.06

Bkg File: [quad4.bkgrnd]2006-07-23_1736.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00201	0400	0.50	09675	1850	23-JUL-2006 17:36:35.32

UST Number: H8M1G1AD Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-A File: [quad4.sample.A]H8M1G1AD.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.A_1;5481

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01205	1850	25-JUL-2006 07:08:03.48

Bkg File: [quad4.bkgrnd]2006-07-25_0355.A_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00188	0400	0.47	09652	1850	25-JUL-2006 03:55:54.65

UST Number: H8W141AA Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H8W141AA.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5479

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00020	0050	01218	1850	24-JUL-2006 15:21:35.82
2	00000	00043	0050	01194	1850	24-JUL-2006 16:16:51.39
3	00000	00017	0050	01224	1850	24-JUL-2006 17:12:07.06

Bkg File: [quad4.bkgrnd]2006-07-23_1736.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00100	0400	0.25	09675	1850	23-JUL-2006 17:36:35.32

UST Number: H8W141AA Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-B File: [quad4.sample.B]H8W141AA.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.B_1;5480

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00009	0050	01205	1850	25-JUL-2006 07:08:03.48

Bkg File: [quad4.bkgrnd]2006-07-25_0355.B_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00103	0400	0.26	09652	1850	25-JUL-2006 03:55:54.65

UST Number: H8W141AC Isotope: 180 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H8W141AC.180
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5482

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00131	0050	01218	1850	24-JUL-2006 15:21:35.82
2	00000	00148	0050	01194	1850	24-JUL-2006 16:16:51.39
3	00000	00109	0050	01224	1850	24-JUL-2006 17:12:07.06

Bkg File: [quad4.bkgrnd]2006-07-23_1736.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00101	0400	0.25	09675	1850	23-JUL-2006 17:36:35.32

UST Number: H8W141AC Isotope: 430 (QREPORT Rev 11-OCT-98)

Detector: 4-C File: [quad4.sample.C]H8W141AC.430
Dish Size: 1 Bkg File: $DISK1:[QUAD4.BKGRND]CURRENT.C_1;5483

Cycle	Alpha	Beta	Min	Guard	Volts	Finish Date/Time
1	00000	00035	0050	01205	1850	25-JUL-2006 07:08:03.48

Bkg File: [quad4.bkgrnd]2006-07-25_0355.C_1 (QREPORT Rev 11-OCT-98)

Cycle	Count	Min	CPM	Guard	Volts	Date/Time
Bkg	00096	0400	0.24	09652	1850	25-JUL-2006 03:55:54.65

RADIUM 226

SAMPLE AND QC DATA

SEVERN TRENT STL

Data Review/Verification Checklist

RADIOCHEMISTRY, First Level Review

7/24/2006 1:29:37 PM

Lot No., Due Date: J6G030156; 08/01/2006

Client, Site: 536403; AIR MONITORING Yerington Mine

QC Batch No., Method Test: 6191220; RRA2267 Ra-226 by ASC-7

SDG, Matrix: 32052; FILTER

	Yes	No	N/A
1.0 COC			
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	✓		
2.0 QC Batch			
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	✓		
2.2 Are the QC appropriate for the analysis included in the batch?	✓		
2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	✓		
2.4 Does the Worksheets include a Tracer Vial label for each sample?	✓		
3.0 QC & Samples			
3.1 Is the blank results, yield, and MDA within contract limits?	✓		
3.2 Is the LCS result, yield, and MDA within contract limits?	✓		
3.3 Are the MS/MSD results, yields, and MDA within contract limits?			✓
3.4 Are the duplicate result, yields, and MDAs within contract limits?			✓
3.5 Are the sample yields and MDAs within contract limits?		✓	
4.0 Raw Data			
4.1 Were results calculated in the correct units?	✓		
4.2 Were analysis volumes entered correctly?	✓		
4.3 Were Yields entered correctly?	✓		
4.4 Were spectra reviewed/meet contractual requirements?	✓		
4.5 Were raw counts reviewed for anomalies?	✓		
5.0 Other			
5.1 Are all nonconformances included and noted?	✓		
5.2 Are all required forms filled out?	✓		
5.3 Was the correct methodology used?	✓		
5.4 Was transcription checked?	✓		
5.5 Were all calculations checked at a minimum frequency?	✓		
5.6 Are worksheet entries complete and correct?	✓		

6.0 Comments on any No response:
See NCM. 10.08374

First Level Review Pam Anderson **Date** 7.24.06

SEVERN TRENT STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 619122D

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?		✓	
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery with contract acceptance criteria?	✓		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	✓		
8. Do the MS/MSD results and yields meet acceptance criteria?			✓
9. Do the duplicate sample results and yields meet acceptance criteria?			✓
C. Other			
1. Are all Nonconformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See NCM

Second Level Review: Sheryl A Adam Date: 7-24-06

7/14/2006 9:53:30 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120403183

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

Sep1 DT/Tm Tech: 7/17/06 AL 1512

AnalyDueDate: 07/31/2006

Batch: 6191220 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6191221, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8MXT-1-AC J6G030156-1-SAMP	0.833g	502.16g	152.83g,in	0.2535g 7.5759 / 7.205 = 1.0515	RATA23261 07/12/06		613	0919	7/18	
								7/19/06	0821 R	
							IHB	7/22/06	0842 R	
06/12/2006 14:25		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
2 H8MXV-1-AC J6G030156-2-SAMP	0.833g	500.50g	152.83g,in	0.2544g 7.6350 / 8.210 = 0.9300	RATA23262 07/12/06		612	0919	7/18	
								7/19/06	0821 R	
							2RC	7/22/06	0840 R	
06/12/2006 15:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
3 H8MXW-1-AC J6G030156-3-SAMP	0.833g	511.31g	154.68g,in	0.252g 7.5661 / 7.150 = 1.0582	RATA23263 07/12/06		91	0953	7/18	
								7/19/06	0821	
							3RA	7/22/06	0839 R	
06/12/2006 16:45		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
4 H8MXX-1-AC J6G030156-4-SAMP	0.833g	500.07g	150.93g,in	0.2514g 7.5666 / 6.486 = 1.1665	RATA23264 07/12/06		65	0953	7/18	
								7/19/06	0821 R	
							4UA	7/22/06	0841 R	
06/12/2006 17:50		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 9:53:31 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191220 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6191221, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
5 H8MX3-1-AC J6G030156-5-SAMP	0.833g	503.86g	151.70g,in	0.2508g	RATA23265 07/12/06		67	0954	7/18	
				7.5562 / 7.185 = 1.0517					7/19/06 0821	
								7RH	7/22/06 0842	
06/12/2006 18:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
6 H8MX6-1-AC J6G030156-6-SAMP	0.833g	504.67g	151.36g,in	0.2498g	RATA23266 07/12/06		610	0954	7/18	
				7.5168 / 6.214 = 1.2097					7/19/06 0821	
								8RD	7/22/06 0840	
06/12/2006 19:10		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
7 H8MX8-1-AC J6G030156-7-SAMP	0.833g	501.56g	151.35g,in	0.2514g	RATA23267 07/12/06		66	0954	7/18	
				7.5759 / 7.320 = 1.0350					7/19/06 0821	
								9RC	7/22/06 0841	
06/12/2006 14:35		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
8 H8M0K-1-AC J6G030156-8-SAMP	0.833g	501.61g	153.14g,in	0.2543g	RATA23268 07/12/06		68	0954	7/18	
				7.6252 / 6.964 = 1.0949					7/19/06 0821	
								DSA	7/22/06 0840	
06/12/2006 00:49		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:

STL RICHLAND

7/14/2006 9:53:31 AM

Sample Preparation/Analysis

Balance Id:1120373922,1120373922,1120

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191220 FILTER pCi/sampl PM, Quote: SA , 63174

SEQ Batch, Test: 6191221, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
9 H8M0Q-1-AC J6G030156-9-SAMP	0.833g	500.21g	151.06g,in	0.2516g 7.5463 7.503 = 1.0057	RATA23269 07/12/06		U3	0954	7/1 [illegible] 7/19/06 0841 R EHB 7/22/06 0911 R	
06/12/2006 00:49			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
10H8M0V-1-AC J6G030156-10-SAMP	0.833g	501.62g	150.79g,in	0.2504g 7.5463 ~~7.220~~ = 1.0236 7.372	RATA23270 07/12/06		U2	0959	7/1 [illegible] 7/19/06 0841 R FSA 7/22/06 0912 R	
06/12/2006 00:28			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
11H8M05-1-AC J6G030156-11-SAMP	0.833g	502.43g	150.15g,in	0.2489g 7.5168 7.220 = 1.0411	RATA23271 07/12/06		9"	1027	7/1 [illegible] 7/19/06 0841 R GSA 7/22/06 0909 R	
06/12/2006 00:38			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:
12H8M08-1-AC J6G030156-12-SAMP	0.833g	504.38g	151.05g,in	0.2495g 7.5660 7.027 = 1.0767	RATA23272 07/12/06		6	1037	7/1 [illegible] 7/19/06 0841 R JSB 7/22/06 0911 R	
06/12/2006 00:36			AmtRec: FILTER	#Containers: 1				Scr:	Alpha:	Beta:

STL RICHLAND

7/14/2006 9:53:32 AM

Sample Preparation/Analysis

536403, Brown and Caldwell , Brown & Caldwell

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #:

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191220 FILTER pCi/sampl PM, Quote: SA , 63174
SEQ Batch, Test: 6191221, BXTF

Sep2 DT/Tm Tech:

Prep Tech: HansenM,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
13H8M1C-1-AC J6G030156-13-SAMP	0.833g	507.93g	150.80g,in	0.2473g	RATA23273 07/12/06		67	1027	7/19	
				7.5857 / 7.489 = 1.0129					7/19/06	0858 R
									LMC 7/22/06	0912 R
06/12/2006 00:37		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
14H8M1E-1-AC J6G030156-14-SAMP	0.833g	500.10g	155.54g,in	0.2591g	RATA23274 07/12/06		610	1027	7/19	
				7.5168 / 7.190 = 1.0455					7/19/06	0858 R
									MRA 7/22/06	0910 R
06/12/2006 00:33		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
15H8M1G-1-AC J6G030156-15-SAMP	0.833g	507.33g	151.46g,in	0.2487g	RATA23275 07/12/06		66	1027	7/19	
				7.5562 / 7.733 = 0.9771					7/19/06	0858 R
									QMB 7/22/06	0913 R
06/12/2006 00:24		AmtRec: FILTER	#Containers: 1				Scr:	Alpha:		Beta:
16H8W10-1-AA-B J6G100000-220-BLK			1.00sa,in	1.00sa	RATA23276 07/12/06		68	1028	7/19	
				7.4872 / 7.719 = 0.9700					7/19/06	0858 R
									KME 7/22/06	0911 R
06/12/2006 14:25		AmtRec:	#Containers: 1				Scr:	Alpha:		Beta:

7/14/2006 9:53:32 AM

Sample Preparation/Analysis

BX Ra-226/228 PrpRC5016, SepRC5005
TE Ba-133 by NaI & Ra-226 by Alpha Scint 7 day ingrow
01 STANDARD TEST SET

Balance Id:1120373922,1120373922,1120

Pipet #: _____

AnalyDueDate: 07/31/2006

Sep1 DT/Tm Tech:

Batch: 6191220 pCi/sampl

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,AntonsonL

Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
17H8W10-1-AC-C			1.00sa,in	1.00sa	RASC4141					
J6G100000-220-LCS				7.5263 -	06/13/06		613	102V	7/18/06	
				8.288 -	0.9081 -				7/19/06	0858 R
								PMB	7/22/06	0947 R

06/12/2006 14:25 AmtRec: #Containers: 1 Scr: Alpha: Beta:

Comments:

All Clients for Batch:
536403, Brown and Caldwell Brown & Caldwell , SA , 63174

H8MXT1AC-SAMP Constituent List:

Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:

H8W101AA-BLK:

Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1.00E+00	pCi/sam	LCL:	UCL:	RPD:

H8W101AC-LCS:

Ba-133	RDL:	pCi/sam	LCL:20	UCL:115	RPD:20	Ra-226	RDL:1	pCi/sam	LCL:70	UCL:130	RPD:20

H8MXT1AC-SAMP Calc Info:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W101AA-BLK:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B
H8W101AC-LCS:
Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____ Date: _____

Clouseau
Nonconformance Memo

SEVERN TRENT SERVICES

NCM #: **10-08376**
NCM Initiated By: Pam Anderson
Date Opened: 07/24/2006
Date Closed:

Classification: **Anomaly**
Status: **GLREVIEW**
Production Area: Environmental - Sep
Tests: Ra-226 by ASC-7
Lot #'s (Sample #'s): J6G030156 (6),
QC Batches: 6191220

Nonconformance: MDA not met
Subcategory: Data accepted

Problem Description / Root Cause

Name	Date	Description
Pam Anderson	07/24/2006	Sample H8MX61AC just misses the 1.0 CRDL with an MDA of 1.24 pCi/SA. The yield was slightly lower at 83%. Data will be accepted.

Corrective Action

Name	Date	Corrective Action
Pam Anderson	07/24/2006	Report the data with MDA achieved.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note	Response	Response Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

Date Printed: 7/24/2006

7/24/2006 1:18:20 PM

ICOC Fraction Transfer/Status Report

ByDate: 7/24/2005, 7/29/2006, Batch: '6191220', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus	Accepting			Comments
6191220						
AC		**CalcC**	**HansenM**	7/14/2006 8:47:31		
SC			wagarr	IsBatched	7/10/2006 4:09:29 PM	ICOC_RADCALC v4.8.24
SC			HansenM	InPrep2	7/14/2006 8:47:31 AM	RICH-RC-5016 REVISION 5
SC			HansenM	Prep2C	7/14/2006 8:48:00 AM	RICH-RC-5016 REVISION 5
SC			AntonsonL	InPrep	7/14/2006 9:36:45 AM	RICH-RC-5005 Revision 5
SC			LongA	Sep1C	7/17/2006 5:25:53 PM	RICH-RC-5005 REVISION 5
SC			DAWKINSO	InCnt1	7/17/2006 10:11:10 PM	RICH-RD-0007 REVISION 5
SC			BlackCL	Cnt1C	7/18/2006 10:31:58 AM	RICH-RD-0007 REVISION 5
SC			StringerR	InSep2	7/19/2006 8:25:58 AM	RICH-RC-5005 REVISION 5
SC			StringerR	CalcC	7/22/2006 1:46:34 PM	RICH-RC-5005 REVISION 5
AC			**HansenM**	7/14/2006 8:48:00		
AC			**AntonsonL**	7/14/2006 9:36:45		
AC			**LongA**	7/17/2006 5:25:53 PM		
AC			**DAWKINSO**	7/17/2006 10:11:10		
AC			**BlackCL**	7/18/2006 10:31:58		
AC			**StringerR**	7/19/2006 8:25:58		
AC			**StringerR**	7/22/2006 1:46:34 PM		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

Grp Rec Cnt: 8

ICOCFractions v4.8.18

7/24/2006 1:18:19 PM

Rpt DB Transfer log (Batch Results)

SEVERN TRENT STL

SDG or Batch / Isotope	Rpt Db Id / Method	RTst Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / MDA	Units	Expected	Yield	Volumes
32052	**9H8M0510**		**J6G03015611**	000497	FILTER	7/3/2006 10:00:00	6/13/2006 2:00:00 PM				
RA-226	BXTE	0	7/22/2006 12:09:00 PM	**7.0504E-03**	1.394E-01	1.394E-01	5.897E-01	PCI/SA	0.961	1.0E+0	2.489E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**5.7793E-02**	5.779E-02	5.801E-02	2.311E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**2.9555E-01**	1.045E-01	1.076E-01	1.001E-01	PCI/SA	1.093	1.0E+0	3.315E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**9.236E-02**	6.66E-02	6.709E-02	2.216E-01	PCI/SA	1.093	1.0E+0	3.315E-2
U-234	7YSR	0	7/18/2006 11:45:34 PM	**0.0E+00**	0.0E+00	1.148E-01	2.541E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-235	7YSR	0	7/18/2006 11:45:34 PM	**-1.875E-02**	1.875E-02	1.881E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
U-238	7YSR	0	7/18/2006 11:45:34 PM	**7.4996E-02**	9.56E-02	9.579E-02	4.49E-01	PCI/SA	0.939	1.0E+0	3.247E-2
32052	**9H8M0810**		**J6G03015612**	000498	FILTER	7/3/2006 10:00:00	6/13/2006 12:00:00 PM				
RA-226	BXTE	0	7/22/2006 12:11:01 PM	**2.3986E-01**	1.884E-01	1.901E-01	6.618E-01	PCI/SA	0.929	1.0E+0	2.495E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**1.7058E-01**	9.848E-02	9.962E-02	3.186E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**4.1797E-01**	1.272E-01	1.324E-01	2.18E-01	PCI/SA	1.035	1.0E+0	3.514E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**6.0639E-07**	4.451E-02	4.451E-02	2.675E-01	PCI/SA	1.035	1.0E+0	3.514E-2
U-234	7YSR	0	7/18/2006 11:45:43 PM	**1.9776E-01**	1.398E-01	1.407E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-235	7YSR	0	7/18/2006 11:45:43 PM	**0.0E+00**	0.0E+00	1.211E-01	2.68E-01	PCI/SA	1.037	1.0E+0	3.198E-2
U-238	7YSR	0	7/18/2006 11:45:43 PM	**-1.9785E-02**	1.978E-02	1.985E-02	4.736E-01	PCI/SA	1.037	1.0E+0	3.198E-2
32052	**9H8M0K10**		**J6G0301568**	000494	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
RA-226	BXTE	0	7/22/2006 11:40:01	**5.1423E-01**	2.699E-01	2.748E-01	8.78E-01	PCI/SA	0.913	1.0E+0	2.543E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**1.8768E-06**	7.954E-02	7.954E-02	4.036E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**4.1367E-01**	1.259E-01	1.311E-01	2.158E-01	PCI/SA	1.022	1.0E+0	3.371E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**6.0016E-07**	4.406E-02	4.406E-02	2.648E-01	PCI/SA	1.022	1.0E+0	3.371E-2
U-234	7YSR	0	7/18/2006 11:44:56 PM	**9.2516E-02**	9.252E-02	9.28E-02	2.507E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-235	7YSR	0	7/18/2006 11:44:56 PM	**-1.8501E-02**	1.85E-02	1.856E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
U-238	7YSR	0	7/18/2006 11:44:56 PM	**7.4015E-02**	9.435E-02	9.453E-02	4.431E-01	PCI/SA	1.05	1.0E+0	3.234E-2
32052	**9H8M0Q10**		**J6G0301569**	000495	FILTER	7/3/2006 10:00:00	6/14/2006 1:00:00 AM				
RA-226	BXTE	0	7/22/2006 12:11:00 PM	**2.2471E-01**	1.88E-01	1.893E-01	6.636E-01	PCI/SA	0.994	1.0E+0	2.516E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**1.6142E-01**	9.508E-02	9.619E-02	2.766E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**2.6546E-01**	1.084E-01	1.11E-01	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**4.4243E-02**	4.424E-02	4.442E-02	1.199E-01	PCI/SA	0.961	1.0E+0	3.361E-2
U-234	7YSR	0	7/18/2006 11:45:07 PM	**7.9468E-02**	1.013E-01	1.015E-01	4.759E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-235	7YSR	0	7/18/2006 11:45:07 PM	**0.0E+00**	0.0E+00	1.217E-01	2.692E-01	PCI/SA	0.987	1.0E+0	3.258E-2
U-238	7YSR	0	7/18/2006 11:45:07 PM	**5.959E-02**	1.032E-01	1.034E-01	5.615E-01	PCI/SA	0.987	1.0E+0	3.258E-2
32052	**9H8M0V10**		**J6G03015610**	000496	FILTER	7/3/2006 10:00:00	6/13/2006 4:00:00 AM				
RA-226	BXTE	0	7/22/2006 12:12:00 PM	**6.1129E-01**	3.01E-01	3.071E-01	9.678E-01	PCI/SA	0.977	1.0E+0	2.504E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**9.0006E-02**	6.364E-02	6.415E-02	1.22E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**1.7254E-01**	8.627E-02	8.764E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**4.3134E-02**	4.313E-02	4.331E-02	1.169E-01	PCI/SA	1.046	1.0E+0	3.426E-2
U-234	7YSR	0	7/18/2006 11:45:19 PM	**-1.9527E-02**	1.953E-02	1.959E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-235	7YSR	0	7/18/2006 11:45:19 PM	**0.0E+00**	0.0E+00	1.196E-01	2.645E-01	PCI/SA	1.062	1.0E+0	3.247E-2
U-238	7YSR	0	7/18/2006 11:45:19 PM	**7.8089E-02**	9.955E-02	9.974E-02	4.676E-01	PCI/SA	1.062	1.0E+0	3.247E-2
32052	**9H8M1C10**		**J6G03015613**	000499	FILTER	7/3/2006 10:00:00	6/13/2006 1:00:00 PM				
RA-226	BXTE	0	7/22/2006 12:12:00 PM	**2.8971E-01**	1.836E-01	1.863E-01	6.209E-01	PCI/SA	0.987	1.0E+0	2.473E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**6.4329E-02**	6.433E-02	6.458E-02	2.572E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**2.4672E-01**	1.007E-01	1.031E-01	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
TH-232	9NS1	0	7/19/2006 8:35:56 PM	**0.0E+00**	0.0E+00	5.036E-02	1.114E-01	PCI/SA	1.001	1.0E+0	3.393E-2
U-234	7YSR	0	7/18/2006 11:45:58 PM	**-4.1843E-02**	1.871E-02	1.901E-02	5.91E-01	PCI/SA	0.936	1.0E+0	3.152E-2
U-235	7YSR	0	7/18/2006 11:45:58 PM	**-2.5106E-02**	1.449E-02	1.463E-02	5.217E-01	PCI/SA	0.936	1.0E+0	3.152E-2
U-238	7YSR	0	7/18/2006 11:45:58 PM	**-5.8581E-02**	2.214E-02	2.264E-02	6.474E-01	PCI/SA	0.936	1.0E+0	3.152E-2
32052	**9H8M1E10**		**J6G03015614**	000500	FILTER	7/3/2006 10:00:00	6/13/2006 9:00:00 AM				
RA-226	BXTE	0	7/22/2006 12:10:00 PM	**2.478E-02**	1.863E-01	1.863E-01	7.319E-01	PCI/SA	0.956	1.0E+0	2.591E-1
TH-228	9NS1	0	7/19/2006 8:35:56 PM	**1.8471E-02**	4.13E-02	4.133E-02	2.216E-01	PCI/SA	0.961	1.0E+0	3.455E-2
TH-230	9NS1	0	7/19/2006 8:35:56 PM	**5.3122E-02**	5.312E-02	5.333E-02	2.124E-01	PCI/SA	0.961	1.0E+0	3.455E-2

6191220, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AC=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AC=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AC=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AC=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / Mda	Units	Expected	Yield	Volumes	
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**-3.5414E-02**	2.504E-02	2.523E-02	2.607E-01	PCI/SA		0.961	1.0E+0	3.455E-2
U-234	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-235	7YSR	0		7/18/2006 11:46:12 PM	**-2.4292E-02**	1.402E-02	1.416E-02	5.047E-01	PCI/SA		0.973	1.0E+0	3.256E-2
U-238	7YSR	0		7/18/2006 11:46:12 PM	**-3.2389E-02**	1.619E-02	1.64E-02	5.403E-01	PCI/SA		0.973	1.0E+0	3.256E-2
32052	**9H8M1G10**			**J6G03015615**	000501	FILTER	7/3/2006 10:00:00	6/13/2006					
RA-226	BXTE	0		7/22/2006 12:13:00 PM	**-1.774E-02**	1.291E-01	1.292E-01	5.48E-01	PCI/SA		1.023	1.0E+0	2.487E-1
TH-228	9NS1	0		7/19/2006 8:36:46 PM	**4.7234E-02**	7.468E-02	7.48E-02	3.476E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-230	9NS1	0		7/19/2006 8:36:46 PM	**4.9791E-01**	1.501E-01	1.568E-01	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
TH-232	9NS1	0		7/19/2006 8:36:46 PM	**0.0E+00**	0.0E+00	5.544E-02	1.227E-01	PCI/SA		0.93	1.0E+0	3.504E-2
U-234	7YSR	0		7/18/2006 11:46:30 PM	**-4.1923E-02**	1.875E-02	1.905E-02	5.921E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-235	7YSR	0		7/18/2006 11:46:30 PM	**-1.6769E-02**	1.186E-02	1.193E-02	4.788E-01	PCI/SA		1.01	1.0E+0	3.18E-2
U-238	7YSR	0		7/18/2006 11:46:30 PM	**-3.3539E-02**	1.677E-02	1.698E-02	5.595E-01	PCI/SA		1.01	1.0E+0	3.18E-2
32052	**9H8MX310**			**J6G0301565**	P-0672	FILTER	7/3/2006 10:00:00	6/12/2006 6:35:00 PM					
RA-226	BXTE	0		7/22/2006 11:42:00	**-2.4609E-01**	2.871E-01	2.881E-01	1.156E+00	PCI/SA		0.951	1.0E+0	2.508E-1
TH-228	9NS1	0		7/19/2006 10:14:41	**9.0145E-02**	8.433E-02	8.471E-02	3.318E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-230	9NS1	0		7/19/2006 10:14:41	**4.3207E-01**	1.366E-01	1.42E-01	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
TH-232	9NS1	0		7/19/2006 10:14:41	**4.3207E-02**	4.321E-02	4.338E-02	1.171E-01	PCI/SA		1.069	1.0E+0	3.286E-2
U-234	7YSR	0		7/18/2006 11:44:06 PM	**1.1407E-01**	1.397E-01	1.4E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-235	7YSR	0		7/18/2006 11:44:06 PM	**-3.8015E-02**	2.688E-02	2.705E-02	5.371E-01	PCI/SA		0.965	1.0E+0	3.266E-2
U-238	7YSR	0		7/18/2006 11:44:06 PM	**1.9019E-02**	1.024E-01	1.024E-01	6.529E-01	PCI/SA		0.965	1.0E+0	3.266E-2
32052	**9H8MX610**			**J6G0301566**	P-0673	FILTER	7/3/2006 10:00:00	6/12/2006 7:10:00 PM					
RA-226	BXTE	0		7/22/2006 11:40:01	**-2.9157E-01**	2.781E-01	2.796E-01	1.241E+00	PCI/SA		0.827	1.0E+0	2.498E-1
TH-228	9NS1	0		7/19/2006 10:14:43	**-3.742E-05**	2.778E-01	2.778E-01	1.489E+00	PCI/SA		0.288	1.0E+0	3.449E-2
TH-230	9NS1	0		7/19/2006 10:14:43	**6.9177E-01**	3.522E-01	3.611E-01	9.221E-01	PCI/SA		0.288	1.0E+0	3.449E-2
TH-232	9NS1	0		7/19/2006 10:14:43	**0.0E+00**	0.0E+00	1.883E-01	4.166E-01	PCI/SA		0.288	1.0E+0	3.449E-2
U-234	7YSR	0		7/18/2006 11:44:29 PM	**0.0E+00**	0.0E+00	1.415E-01	3.131E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-235	7YSR	0		7/18/2006 11:44:29 PM	**-2.3113E-02**	2.311E-02	2.319E-02	5.534E-01	PCI/SA		0.83	1.0E+0	3.244E-2
U-238	7YSR	0		7/18/2006 11:44:29 PM	**-4.6226E-02**	3.269E-02	3.29E-02	6.53E-01	PCI/SA		0.83	1.0E+0	3.244E-2
32052	**9H8MX810**			**J6G0301567**	P-0674	FILTER	7/3/2006 10:00:00	6/12/2006 2:35:00 PM					
RA-226	BXTE	0		7/22/2006 11:41:00	**6.9133E-01**	2.808E-01	2.895E-01	8.599E-01	PCI/SA		0.966	1.0E+0	2.514E-1
TH-228	9NS1	0		7/19/2006 8:35:56 PM	**5.4185E-02**	1.271E-01	1.272E-01	5.832E-01	PCI/SA		0.701	1.0E+0	3.517E-2
TH-230	9NS1	0		7/19/2006 8:35:56 PM	**5.969E-01**	1.817E-01	1.899E-01	3.113E-01	PCI/SA		0.701	1.0E+0	3.517E-2
TH-232	9NS1	0		7/19/2006 8:35:56 PM	**5.1904E-02**	5.19E-02	5.213E-02	1.407E-01	PCI/SA		0.701	1.0E+0	3.517E-2
U-234	7YSR	0		7/18/2006 11:44:41 PM	**7.9394E-02**	1.012E-01	1.014E-01	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-235	7YSR	0		7/18/2006 11:44:41 PM	**0.0E+00**	0.0E+00	1.216E-01	2.69E-01	PCI/SA		1.018	1.0E+0	3.245E-2
U-238	7YSR	0		7/18/2006 11:44:41 PM	**-1.9856E-02**	1.986E-02	1.992E-02	4.754E-01	PCI/SA		1.018	1.0E+0	3.245E-2
32052	**9H8MXT10**			**J6G0301561**	P-0668	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
RA-226	BXTE	0		7/22/2006 11:42:00	**-4.6495E-01**	2.373E-01	2.421E-01	1.035E+00	PCI/SA		0.951	1.0E+0	2.535E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**2.1989E-02**	4.917E-02	4.921E-02	2.638E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**1.2644E-01**	7.3E-02	7.387E-02	1.142E-01	PCI/SA		0.975	1.0E+0	3.395E-2
U-234	7YSR	0		7/18/2006 11:43:15 PM	**1.5773E-01**	1.422E-01	1.427E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2
U-235	7YSR	0		7/18/2006 11:43:15 PM	**5.9143E-02**	1.025E-01	1.026E-01	5.571E-01	PCI/SA		1.043	1.0E+0	3.244E-2
U-238	7YSR	0		7/18/2006 11:43:15 PM	**-7.8886E-02**	3.944E-02	3.994E-02	6.772E-01	PCI/SA		1.043	1.0E+0	3.244E-2
32052	**9H8MXV10**			**J6G0301562**	P-0669	FILTER	7/3/2006 10:00:00	6/12/2006 3:45:00 PM					
RA-226	BXTE	0		7/22/2006 11:40:00	**2.1993E-01**	2.47E-01	2.481E-01	8.946E-01	PCI/SA		1.075	1.0E+0	2.544E-1
TH-228	9NS1	0		7/19/2006 10:14:05	**1.7101E-02**	3.824E-02	3.827E-02	2.051E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-230	9NS1	0		7/19/2006 10:14:05	**2.7863E-01**	9.97E-02	1.026E-01	1.966E-01	PCI/SA		1.077	1.0E+0	3.779E-2
TH-232	9NS1	0		7/19/2006 10:14:05	**-3.2779E-02**	2.318E-02	2.335E-02	2.413E-01	PCI/SA		1.077	1.0E+0	3.779E-2
U-234	7YSR	0		7/18/2006 11:43:31 PM	**9.9188E-02**	9.919E-02	9.951E-02	2.688E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-235	7YSR	0		7/18/2006 11:43:31 PM	**-5.9525E-02**	3.437E-02	3.47E-02	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
U-238	7YSR	0		7/18/2006 11:43:31 PM	**3.9663E-02**	1.05E-01	1.05E-01	6.261E-01	PCI/SA		1.004	1.0E+0	3.27E-2
32052	**9H8MXW10**			**J6G0301563**	P-0670	FILTER	7/3/2006 10:00:00	6/12/2006 4:45:00 PM					
RA-226	BXTE	0		7/22/2006 11:39:00	**1.3365E+00**	3.131E-01	3.436E-01	7.782E-01	PCI/SA		0.945	1.0E+0	2.52E-1

6191220, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AC=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AC=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AC=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AC=> ,

SDG or Batch / Isotope	Rpt Db Id / Method	RTst	Qc	LotSample / Analysis Date	Client Id / Result	Matrix / Cnt Uncert	Received Date / Tot Uncert	Sample Date / MDA	Units	Expected	Yield	Volumes	
TH-228	9NS1	0		7/19/2006 10:14:26	**-9.5285E-02**	4.261E-02	4.343E-02	3.835E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-230	9NS1	0		7/19/2006 10:14:26	**4.9309E-01**	1.379E-01	1.446E-01	2.191E-01	PCI/SA		0.899	1.0E+0	3.344E-2
TH-232	9NS1	0		7/19/2006 10:14:26	**3.6525E-02**	3.653E-02	3.667E-02	9.898E-02	PCI/SA		0.899	1.0E+0	3.344E-2
U-234	7YSR	0		7/18/2006 11:43:49 PM	**1.8187E-01**	2.06E-01	2.066E-01	9.344E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-235	7YSR	0		7/18/2006 11:43:49 PM	**2.7294E-01**	2.009E-01	2.021E-01	7.181E-01	PCI/SA		0.853	1.0E+0	3.157E-2
U-238	7YSR	0		7/18/2006 11:43:49 PM	**-1.3661E-01**	5.577E-02	5.686E-02	8.879E-01	PCI/SA		0.853	1.0E+0	3.157E-2
32052	**9H8MXX10**			**J6G0301564**	P-0671	FILTER	7/3/2006 10:00:00	6/12/2006 5:50:00 PM					
RA-226	BXTE	0		7/22/2006 11:41:00	**5.698E-01**	2.615E-01	2.69E-01	8.269E-01	PCI/SA		0.857	1.0E+0	2.514E-1
TH-228	9NS1	0		7/19/2006 10:14:33	**1.1341E-01**	9.889E-02	9.941E-02	3.814E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-230	9NS1	0		7/19/2006 10:14:33	**4.3487E-02**	4.349E-02	4.366E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
TH-232	9NS1	0		7/19/2006 10:14:33	**0.0E+00**	0.0E+00	5.326E-02	1.179E-01	PCI/SA		0.957	1.0E+0	3.477E-2
U-234	7YSR	0		7/18/2006 11:43:53 PM	**1.8959E-01**	1.895E-01	1.902E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-235	7YSR	0		7/18/2006 11:43:53 PM	**8.4252E-02**	1.074E-01	1.076E-01	5.043E-01	PCI/SA		0.898	1.0E+0	3.278E-2
U-238	7YSR	0		7/18/2006 11:43:53 PM	**8.4283E-02**	1.576E-01	1.578E-01	8.217E-01	PCI/SA		0.898	1.0E+0	3.278E-2
32052	**H8W101AB**			**J6G100000220**	INTRA-LAB BLANK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
RA-226	BXTE	0	B	7/22/2006 12:11:00 PM	**7.6002E-03**	4.552E-02	4.553E-02	1.839E-01	PCI/SA		1.031	1.0E+0	1.0E+0
32052	**H8W101CS**			**J6G100000220**	INTRA-LAB CHECK	FILTER	7/3/2006 10:00:00	6/12/2006 2:25:00 PM					
RA-226	BXTE	0	S	7/22/2006 12:47:00 PM	**1.1515E+00**	1.037E-01	1.574E-01	1.205E-01	PCI/SA	1.3917E+00	1.101	1.0E+0	1.0E+0

6191220, **Samples Inserted | Updated | NotUpdated => 2 | 0 | 15,
**Results Inserted | ReTestInserted | Updated | NotInserted => 17 | 0 | 0 | 0.
**Diff RptDb | Qtims => *wo:H8M051AC=> , sdt:6/13/2006 2:00:00 PM | 6/12/2006 12:38:00 AM *wo:H8M081AC=> , sdt:6/13/2006 12:00:00 PM | 6/12/2006 12:36:00 AM *wo:H8M0K1AC=> , sdt:6/14/2006 1:00:00 AM | 6/12/2006 12:49:00 AM *wo:H8M0Q1AC=> ,

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Results

7/24/2006 11:12:38 AM

Summary Report

Status	Meth	Matrix	Wrk Ord	Parameter	Sa Act	Uncert	Q	Units	Av	ILcC	IDC	QC	Yield	RYld
Ra-226 by ASC-7				Richland Standard Ra-226/Ra-228 Deem Wo Blk Subt.										
Calc	TE	FILTER	H8MXT1AC	RA-226	-4.65E-01	(2.42E-01)	U4	PCI/SA	R	4.67E-01	1.04E+00		95%	
Calc	TE	FILTER	H8MXV1AC	RA-226	2.20E-01	(2.48E-01)	U4	PCI/SA	R	3.92E-01	8.95E-01		108%	
Calc	TE	FILTER	H8MXW1AC	RA-226	1.34E+00	(3.44E-01)		PCI/SA	R	3.26E-01	7.78E-01		95%	
Calc	TE	FILTER	H8MXX1AC	RA-226	5.70E-01	(2.69E-01)		PCI/SA	R	3.49E-01	8.27E-01		86%	
Calc	TE	FILTER	H8MX31AC	RA-226	-2.46E-01	(2.88E-01)	U4	PCI/SA	R	5.23E-01	1.16E+00		95%	
Calc	TE	FILTER	H8MX61AC	RA-226	-2.92E-01	(2.80E-01)	U4	PCI/SA	R	5.33E-01	1.24E+00		83%	
Calc	TE	FILTER	H8MX81AC	RA-226	6.91E-01	(2.90E-01)		PCI/SA	R	3.63E-01	8.60E-01		97%	
Calc	TE	FILTER	H8M0K1AC	RA-226	5.14E-01	(2.75E-01)		PCI/SA	R	3.68E-01	8.78E-01		91%	
Calc	TE	FILTER	H8M0Q1AC	RA-226	2.25E-01	(1.89E-01)	U4	PCI/SA	R	2.86E-01	6.64E-01		99%	
Calc	TE	FILTER	H8M0V1AC	RA-226	6.11E-01	(3.07E-01)		PCI/SA	R	4.09E-01	9.68E-01		98%	
Calc	TE	FILTER	H8M051AC	RA-226	7.05E-03	(1.39E-01)	U4	PCI/SA	R	2.38E-01	5.90E-01		96%	
Calc	TE	FILTER	H8M081AC	RA-226	2.40E-01	(1.90E-01)	U4	PCI/SA	R	2.70E-01	6.62E-01		93%	
Calc	TE	FILTER	H8M1C1AC	RA-226	2.90E-01	(1.86E-01)	U4	PCI/SA	R	2.60E-01	6.21E-01		99%	
Calc	TE	FILTER	H8M1E1AC	RA-226	2.48E-02	(1.86E-01)	U4	PCI/SA	R	3.16E-01	7.32E-01		96%	
Calc	TE	FILTER	H8M1G1AC	RA-226	-1.77E-02	(1.29E-01)	U4	PCI/SA	R	2.26E-01	5.48E-01		102%	
Calc	TE	FILTER	H8W101AA	RA-226	7.60E-03	(4.55E-02)	U4	PCI/SA	R	7.66E-02	1.84E-01	B	103%	
Calc	TE	FILTER	H8W101AC	RA-226	1.15E+00	(1.57E-01)		PCI/SA	R	4.86E-02	1.21E-01	S	110%	83%

P Anderson
7-24-06

() - (1s Uncertainities)
IDC - Instrument Detection Level in Conc Units
MLcC- Method Decision Level in Conc Units
MDC - Minimum Detectable Concentration
*Std - Lc, MDC using StdDev for Set of Blanks

Q - Qualifier, U is Less Than Lc = 1.645*TPU
All Results Displayed to Three Digits Reguardless of Significants
Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17
RADCALC v4.8.24
STL Richland

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Calculated Results
Detailed Report

7/24/2006 11:12:38 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
1	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MXT1AC**	**PCI/SA**		06/12/06 14:25	07/22/06 11:42	07/19/06 08:21	RATA23261	1	1.00 Sa	
CID:P-0668LOT:J6G0301561 v4.8.24							FILTER				07/22/06 08:42	RATA23261 Alq	95%	0.25352 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:42	RA-226	16	34	ASC1HB	ASC		N	2.4125E+00	1.0000E+00	N	95%	N		2.4339E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.648E-02)	(0.000E+00)		8%			(0.000E+00)	3.944469		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**-0.464951**	**U4**	-2.46667E-01	-0.261669	-0.261669	1.00 Sa	95%		1.035264		
				(0.242063)		(1.2587E-01)	(0.135416)	(0.135416)	(0.027062)			0.466827		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
2	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MXV1AC**	**PCI/SA**		06/12/06 15:45	07/22/06 11:40	07/19/06 08:21	RATA23262	1	1.00 Sa	
CID:P-0669LOT:J6G0301562 v4.8.24							FILTER				07/22/06 08:40	RATA23262 Alq	108%	0.25436 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:40	RA-226	22	20	ASC2RC	ASC		N	2.0913E+00	1.0000E+00	N	108%	N		2.4348E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.818E-02)	(0.000E+00)		9%			(0.000E+00)	3.931429		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.219931**	**U4**	1.06667E-01	0.124185	0.124185	1.00 Sa	108%		0.894578		
				(0.248085)		(1.1981E-01)	(0.139905)	(0.139905)	(0.027062)			0.391645		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
3	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MXW1AC**	**PCI/SA**		06/12/06 16:45	07/22/06 11:39	07/19/06 08:21	RATA23263	1	1.00 Sa	
CID:P-0670LOT:J6G0301563 v4.8.24							FILTER				07/22/06 08:39	RATA23263 Alq	95%	0.251997 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:39	RA-226	38	11	ASC3RA	ASC		N	1.9876E+00	1.0000E+00	N	95%	N		2.4352E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.811E-02)	(0.000E+00)		8%			(0.000E+00)	3.968306		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/lLcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**1.336527**		5.76667E-01	0.747665	0.747665	1.00 Sa	95%		0.77821		
				(0.343551)		(1.3511E-01)	(0.187426)	(0.187426)	(0.027062)			0.32649		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
4	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MXX1AC**	**PCI/SA**		06/12/06 17:50	07/22/06 11:41	07/19/06 08:21	RATA23264	1	1.00 Sa	
CID:P-0671LOT:J6G0301564 v4.8.24							FILTER				07/22/06 08:41	RATA23264 Alq	86%	0.251414 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:41	RA-226	22	12	ASC4UA	ASC		N	2.1431E+00	1.0000E+00	N	86%	N		2.4344E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.080E-01)	(0.000E+00)		7%			(0.000E+00)	3.9775		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:4

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/24/2006 11:12:39 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.569795**		2.40000E-01	0.318012	0.318012	1.00 Sa	86%		0.826896		
				(0.268966)		(1.1015E-01)	(0.149021)	(0.149021)	(0.027062)			0.349316		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
5	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MX31AC**	**PCI/SA**		06/12/06 18:35	07/22/06 11:42	07/19/06 08:21	RATA23265	1	1.00 Sa	
CID:P-0672LOT:J6G0301565 v4.8.24							FILTER				07/22/06 08:42	RATA23265 Alq	95%	0.250796 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:42	RA-226	24	36	ASC7RH	ASC		N	2.2420E+00	1.0000E+00	N	95%	N		2.4339E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(3.946E-02)	(0.000E+00)		8%			(0.000E+00)	3.987304		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**-0.246088**	**U4**	-1.20000E-01	-0.137008	-0.137008	1.00 Sa	95%		1.155757		
				(0.288149)		(1.4000E-01)	(0.160236)	(0.160236)	(0.027062)			0.522614		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
6	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MX61AC**	**PCI/SA**		06/12/06 19:10	07/22/06 11:40	07/19/06 08:21	RATA23266	1	1.00 Sa	
CID:P-0673LOT:J6G0301566 v4.8.24							FILTER				07/22/06 08:40	RATA23266 Alq	83%	0.249832 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:40	RA-226	8	15	ASC8RD	ASC		N	1.6393E+00	1.0000E+00	N	83%	N		2.4348E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(4.623E-02)	(0.000E+00)		7%			(0.000E+00)	4.002685		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**-0.291568**	**U4**	-9.00000E-02	-0.161705	-0.161705	1.00 Sa	83%		1.2408		
				(0.279646)		(8.5829E-02)	(0.15482)	(0.15482)	(0.027062)			0.532922		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
7	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8MX81AC**	**PCI/SA**		06/12/06 14:35	07/22/06 11:41	07/19/06 08:21	RATA23267	1	1.00 Sa	
CID:P-0674LOT:J6G0301567 v4.8.24							FILTER				07/22/06 08:41	RATA23267 Alq	97%	0.251365 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 11:41	RA-226	24	12	ASC9RC	ASC		N	1.8288E+00	1.0000E+00	N	97%	N		2.4344E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(5.139E-02)	(0.000E+00)		8%			(0.000E+00)	3.978281		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.691334**		2.80000E-01	0.385768	0.385768	1.00 Sa	97%		0.859949		
				(0.289526)		(1.1372E-01)	(0.160062)	(0.160062)	(0.027062)			0.363279		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
8	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M0K1AC**	**PCI/SA**		06/12/06 00:49	07/22/06 11:40	07/19/06 08:21	RATA23268	1	1.00 Sa	
CID:000494LOT:J6G0301568 v4.8.24							FILTER				07/22/06 08:40	RATA23268 Alq	91%	0.254312 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:8

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/24/2006 11:12:39 AM

1	07/22/06 11:40	RA-226	19	11	ASCDSA	ASC		N	1.8059E+00	1.0000E+00	N	91%	N		2.4348E+00	4.5045E-01	1.0000E+00
			50	60				Y	(3.449E-02)	(0.000E+00)		7%			(0.000E+00)	3.932172	

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.514234**		1.96667E-01	0.29031	0.29031	1.00 Sa	91%		0.877958		
				(0.274763)		(1.0323E-01)	(0.154237)	(0.154237)	(0.027062)			0.368338		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
9	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M0Q1AC**	**PCI/SA**		06/12/06 00:49	07/22/06 12:11	07/19/06 08:41	RATA23269	1	1.00 Sa	
CID:000495LOT:J6G0301569 v4.8.24							FILTER				07/22/06 09:11	RATA23269 Alq	99%	0.25156 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:11	RA-226	20	16	ASCEHB	ASC		N	2.5969E+00	1.0000E+00	N	99%	N		2.4301E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.438E-02)	(0.000E+00)		8%			(0.000E+00)	3.97519		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.224706**	**U4**	1.33333E-01	0.125485	0.125485	1.00 Sa	99%		0.663649		
				(0.189303)		(1.1155E-01)	(0.105474)	(0.105474)	(0.027062)			0.286323		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
10	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M0V1AC**	**PCI/SA**		06/12/06 00:28	07/22/06 12:12	07/19/06 08:41	RATA23270	1	1.00 Sa	
CID:000496LOT:J6G03015610 v4.8.24							FILTER				07/22/06 09:12	RATA23270 Alq	98%	0.250405 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:12	RA-226	21	12	ASCFSA	ASC		N	1.6102E+00	1.0000E+00	N	98%	N		2.4297E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.979E-02)	(0.000E+00)		8%			(0.000E+00)	3.993533		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.611289**		2.20000E-01	0.3398	0.3398	1.00 Sa	98%		0.967759		
				(0.307107)		(1.0832E-01)	(0.169617)	(0.169617)	(0.027062)			0.408823		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
11	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M051AC**	**PCI/SA**		06/12/06 00:38	07/22/06 12:09	07/19/06 08:41	RATA23271	1	1.00 Sa	
CID:000497LOT:J6G03015611 v4.8.24							FILTER				07/22/06 09:09	RATA23271 Alq	96%	0.24894 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:09	RA-226	6	7	ASCGSA	ASC		N	2.1653E+00	1.0000E+00	N	96%	N		2.4310E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.622E-02)	(0.000E+00)		8%			(0.000E+00)	4.017031		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.00705**	**U4**	3.33333E-03	0.003896	0.003896	1.00 Sa	96%		0.589734		
				(0.139415)		(6.5912E-02)	(0.077044)	(0.077044)	(0.027062)			0.237688		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:12

RADCALC v4.8.24

STL Richland

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/24/2006 11:12:39 AM

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
12	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M081AC**	**PCI/SA**		06/12/06 00:36	07/22/06 12:11	07/19/06 08:41	RATA23272	1	1.00 Sa	
CID:000498LOT:J6G03015612 v4.8.24							FILTER				07/22/06 09:11	RATA23272 Alq	93%	0.249464 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:11	RA-226	12	8	ASCJSB	ASC		N	2.1011E+00	1.0000E+00	N	93%	N		2.4302E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(7.837E-02)	(0.000E+00)		7%			(0.000E+00)	4.008595		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.23986**	**U4**	1.06667E-01	0.132831	0.132831	1.00 Sa	93%		0.661845		
				(0.190112)		(8.3799E-02)	(0.10501)	(0.10501)	(0.027062)			0.270143		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
13	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M1C1AC**	**PCI/SA**		06/12/06 00:37	07/22/06 12:12	07/19/06 08:58	RATA23273	1	1.00 Sa	
CID:000499LOT:J6G03015613 v4.8.24							FILTER				07/22/06 09:12	RATA23273 Alq	99%	0.24731 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:12	RA-226	17	11	ASCLMC	ASC		N	2.4313E+00	1.0000E+00	N	99%	N		2.4369E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.218E-01)	(0.000E+00)		8%			(0.000E+00)	4.043501		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.289708**	**U4**	1.56667E-01	0.159051	0.159051	1.00 Sa	99%		0.620909		
				(0.186335)		(9.9275E-02)	(0.101898)	(0.101898)	(0.027062)			0.260496		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
14	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M1E1AC**	**PCI/SA**		06/12/06 00:33	07/22/06 12:10	07/19/06 08:58	RATA23274	1	1.00 Sa	
CID:000500LOT:J6G03015614 v4.8.24							FILTER				07/22/06 09:10	RATA23274 Alq	96%	0.259078 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:10	RA-226	14	16	ASCMRA	ASC		N	2.3844E+00	1.0000E+00	N	96%	N		2.4377E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(1.044E-01)	(0.000E+00)		8%			(0.000E+00)	3.859844		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**0.02478**	**U4**	1.33333E-02	0.014252	0.014252	1.00 Sa	96%		0.731857		
				(0.186282)		(1.0022E-01)	(0.107133)	(0.107133)	(0.027062)			0.315751		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
15	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8M1G1AC**	**PCI/SA**		06/12/06 00:24	07/22/06 12:13	07/19/06 08:58	RATA23275	1	1.00 Sa	
CID:000501LOT:J6G03015615 v4.8.24							FILTER				07/22/06 09:13	RATA23275 Alq	102%	0.248687 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:13	RA-226	7	9	ASCQMB	ASC		N	2.4878E+00	1.0000E+00	N	102%	N		2.4365E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(6.220E-02)	(0.000E+00)		8%			(0.000E+00)	4.021125		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU
IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration
Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:15

RADCALC v4.8.24
STL Richland

Batch Nbr: 6191220

Alpha Beta, Ra-226 by ASC-7 , Calculated Results

7/24/2006 11:12:39 AM

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/24/06	RA-226	R	**-0.01774**	**U4**	-1.00000E-02	-0.009794	-0.009794	1.00 Sa	102%		0.547976		
				(0.129162)		(7.2801E-02)	(0.071303)	(0.071303)	(0.027062)			0.226047		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
16	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8W101AA**	**PCI/SA**	**B**	06/12/06 14:25	07/22/06 12:11	07/19/06 08:58	RATA23276	1	1.00 Sa	
CID:INTRA-LAB BLANKLOT:J6G100000220 v4.8.24							FILTER				07/22/06 09:11	RATA23276 Alq	103%	1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:11	RA-226	9	10	ASCKME	ASC		N	1.9262E+00	1.0000E+00	N	103%	N		2.4373E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(2.562E-02)	(0.000E+00)		8%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/22/06	RA-226	R	**0.0076**	**U4**	1.33333E-02	0.016872	0.016872	1.00 Sa	103%		0.183925		
				(0.045528)		(7.9861E-02)	(0.101064)	(0.101064)	(0.017321)			0.076561		

Sq	Status	Method	Matrix	Protocol	Equation Set	Wrk Ord	Units/Matrix	QC/BB	Sa/On Date	AnalysisDate/PptWt	Sep1/Sep2 Date	QC/Tracer Vial	Mult/EntYld	Total/Analy Vol	Final/Count Vol
17	Calc	TE	FILTER	*STLE	Ra226WoBS	**H8W101AC**	**PCI/SA**	**S**	06/12/06 14:25	07/22/06 12:47	07/19/06 08:58	RASC4141	1	1.00 Sa	
CID:INTRA-LAB CHECKLOT:J6G100000220 v4.8.24							FILTER				07/22/06 09:47	RASC4141 Alq	110%	1.00 Sa	

Sq	Cnt Date	Parameter	Sample Cnt	Bkgrnd Cnt	Instr	Geom	Trc/Av	Ent	Efficiency1	Efficiency 2	Ent	Yld Fct	Ent	Blk Value	Ingr Fct	Conv Fct/VolAdj	Decay	Abn
1	07/22/06 12:47	RA-226	139	7	ASCPMB	ASC		N	2.5237E+00	1.0000E+00	N	110%	N		2.4222E+00	4.5045E-01	1.0000E+00	
			50	60			Y		(9.363E-02)	(0.000E+00)		9%			(0.000E+00)	1.00		

Sq	Calc Date	Parameter	Avg	Sa Act	Q	Net Cnt Rt	Dpm Wo Blk	Dpm-Blk	Vol Used	Yield,EnFct	Chem Yld,EFctU	IDC/ILcC	BlkLcC/MDC	StdDvMdC/LcC
	07/22/06	RA-226	R	**1.151494**		2.66333E+00	2.556207	2.556207	1.00 Sa	110%	83%	0.120546		
				(0.157417)		(2.3988E-01)	(0.322213)	(0.322213)	(0.017321)			0.048585		

() - (1s Uncertainities), Q - Qualifier, U Result is Less Than Lc = 1.645 * TPU

IDC - Instrument Detection Level in Conc Units, MLcC - Method Decision Level in Conc Units, MDC- Minimum Detectable Concentration

Sr-89 Counts are Derived from the Combination of Each Sr-89/90 and Y-90 Count, All Result Digits May Not be Significants, Date/Time - mm/dd/yy hh:mm, 24hr Time

RecCnt:17

RADCALC v4.8.24

STL Richland

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MXT1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0515
Technician: RS

Analysis Size: 0.2535 Analysis Unit: SA

Report Date: 22-JUL-2006 12:32:00.72
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:42:00.00

Detector ID: 1 Cell ID: 1HB

Bkg Date: 22-JUL-2006 07:40:05.75
Bkg Counts: 000034 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:42:00.32
Counts: 000016 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MXV1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 0.93
Technician: RS

Analysis Size: 0.2544 Analysis Unit: SA

Report Date: 22-JUL-2006 12:30:00.94
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:40:00.00

Detector ID: 2 Cell ID: 2RC

Bkg Date: 22-JUL-2006 07:40:21.30
Bkg Counts: 000020 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:40:00.44
Counts: 000022 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MXW1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0582
Technician: RS

Analysis Size: 0.252 Analysis Unit: SA

Report Date: 22-JUL-2006 12:29:00.60
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:39:00.00

Detector ID: 3 Cell ID: 3RA

Bkg Date: 22-JUL-2006 07:40:31.52
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:39:00.27
Counts: 000038 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MXX1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.1665
Technician: RS

Analysis Size: 0.2514 Analysis Unit: SA

Report Date: 22-JUL-2006 12:31:00.70
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:41:00.00

Detector ID: 4 Cell ID: 4UA

Bkg Date: 22-JUL-2006 07:40:44.24
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:41:00.31
Counts: 000022 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MX31AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0517
Technician: RS

Analysis Size: 0.2508 Analysis Unit: SA

Report Date: 22-JUL-2006 12:32:00.75
First Separation Date: 19-JUL-2006 08:21
Second Separation Date: 22-JUL-2006 08:42:00.00

Detector ID: 7 Cell ID: 7RH

Bkg Date: 22-JUL-2006 07:40:58.42
Bkg Counts: 000036 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:42:00.37
Counts: 000024 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MX61AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.2097
Technician: RS

Analysis Size: 0.2498 Analysis Unit: SA

Report Date: 22-JUL-2006 12:30:01.21
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:40:00.00

Detector ID: 8 Cell ID: 8RD

Bkg Date: 22-JUL-2006 07:41:10.63
Bkg Counts: 000015 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:40:00.57
Counts: 000008 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8MX81AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.035
Technician: RS

Analysis Size: 0.2514 Analysis Unit: SA

Report Date: 22-JUL-2006 12:31:00.80
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:41:00.00

Detector ID: 9 Cell ID: 9RC

Bkg Date: 22-JUL-2006 07:51:32.00
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:41:00.37
Counts: 000024 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M0K1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0949
Technician: RS

Analysis Size: 0.2543 Analysis Unit: SA

Report Date: 22-JUL-2006 12:30:00.97
First Separation Date: 19-JUL-2006 08:21:00.00
Second Separation Date: 22-JUL-2006 08:40:00.00

Detector ID: 13 Cell ID: DSA

Bkg Date: 22-JUL-2006 07:41:20.55
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 11:40:00.51
Counts: 000019 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M0Q1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0057
Technician: RS

Analysis Size: 0.2516 Analysis Unit: SA

Report Date: 22-JUL-2006 13:01:00.98
First Separation Date: 19-JUL-2006 08:41:00.00
Second Separation Date: 22-JUL-2006 09:11:00.00

Detector ID: 14 Cell ID: EHB

Bkg Date: 22-JUL-2006 07:51:46.39
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:11:00.43
Counts: 000020 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M0V1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0236
Technician: RS

Analysis Size: 0.2504 Analysis Unit: SA

Report Date: 22-JUL-2006 13:02:00.78
First Separation Date: 19-JUL-2006 08:41:00.00
Second Separation Date: 22-JUL-2006 09:12:00.00

Detector ID: 15 Cell ID: FSA

Bkg Date: 22-JUL-2006 08:01:59.25
Bkg Counts: 000012 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:12:00.33
Counts: 000021 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M051AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0411
Technician: RS

Analysis Size: 0.2489 Analysis Unit: SA

Report Date: 22-JUL-2006 12:59:00.54
First Separation Date: 19-JUL-2006 08:41:00.00
Second Separation Date: 22-JUL-2006 09:09:00.00

Detector ID: 16 Cell ID: GSA

Bkg Date: 22-JUL-2006 07:41:29.79
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:09:00.22
Counts: 000006 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M081AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0767
Technician: RS

Analysis Size: 0.2495 Analysis Unit: SA

Report Date: 22-JUL-2006 13:01:01.30
First Separation Date: 19-JUL-2006 08:41:00.00
Second Separation Date: 22-JUL-2006 09:11:00.00

Detector ID: 18 Cell ID: JSB

Bkg Date: 22-JUL-2006 07:41:45.77
Bkg Counts: 000008 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:11:00.57
Counts: 000012 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M1C1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0129
Technician: RS

Analysis Size: 0.2473 Analysis Unit: SA

Report Date: 22-JUL-2006 13:02:00.93
First Separation Date: 19-JUL-2006 08:58:00.00
Second Separation Date: 22-JUL-2006 09:12:00.00

Detector ID: 20 Cell ID: LMC

Bkg Date: 22-JUL-2006 07:52:00.86
Bkg Counts: 000011 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:12:00.41
Counts: 000017 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M1E1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 1.0455
Technician: RS

Analysis Size: 0.2591 Analysis Unit: SA

Report Date: 22-JUL-2006 13:00:00.56
First Separation Date: 19-JUL-2006 08:58:00.00
Second Separation Date: 22-JUL-2006 09:10:00.00

Detector ID: 21 Cell ID: MRA

Bkg Date: 22-JUL-2006 08:02:24.59
Bkg Counts: 000016 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:10:00.24
Counts: 000014 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8M1G1AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 0.9771
Technician: RS

Analysis Size: 0.2487 Analysis Unit: SA

Report Date: 22-JUL-2006 13:03:00.56
First Separation Date: 19-JUL-2006 08:58:00.00
Second Separation Date: 22-JUL-2006 09:13:00.00

Detector ID: 24 Cell ID: QMB

Bkg Date: 22-JUL-2006 07:42:10.19
Bkg Counts: 000009 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:13:00.24
Counts: 000007 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8W101AA Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 0.97
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 22-JUL-2006 13:01:01.05
First Separation Date: 19-JUL-2006 08:58:00.00
Second Separation Date: 22-JUL-2006 09:11:00.00

Detector ID: 19 Cell ID: KME

Bkg Date: 22-JUL-2006 07:41:56.73
Bkg Counts: 000010 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:11:00.47
Counts: 000009 Count Duration: 000050.0

End of Report

ALPHA SCINTILLATION REPORT
(Version: 17-Oct-1998)

Sample ID: H8W101AC Isotope: RA-226

Client: STL Matrix Code: 103

Batch Nbr: 6191220 Activity Unit: PCI/SA Multiplier: 0.9081
Technician: RS

Analysis Size: 1.0 Analysis Unit: SA

Report Date: 22-JUL-2006 13:37:00.75
First Separation Date: 19-JUL-2006 08:58:00.00
Second Separation Date: 22-JUL-2006 09:47:00.00

Detector ID: 23 Cell ID: PMB

Bkg Date: 16-JUL-2006 08:33:25.94
Bkg Counts: 000007 Bkg Duration: 000060.0

Count Date: 22-JUL-2006 12:47:00.27
Counts: 000139 Count Duration: 000050.0

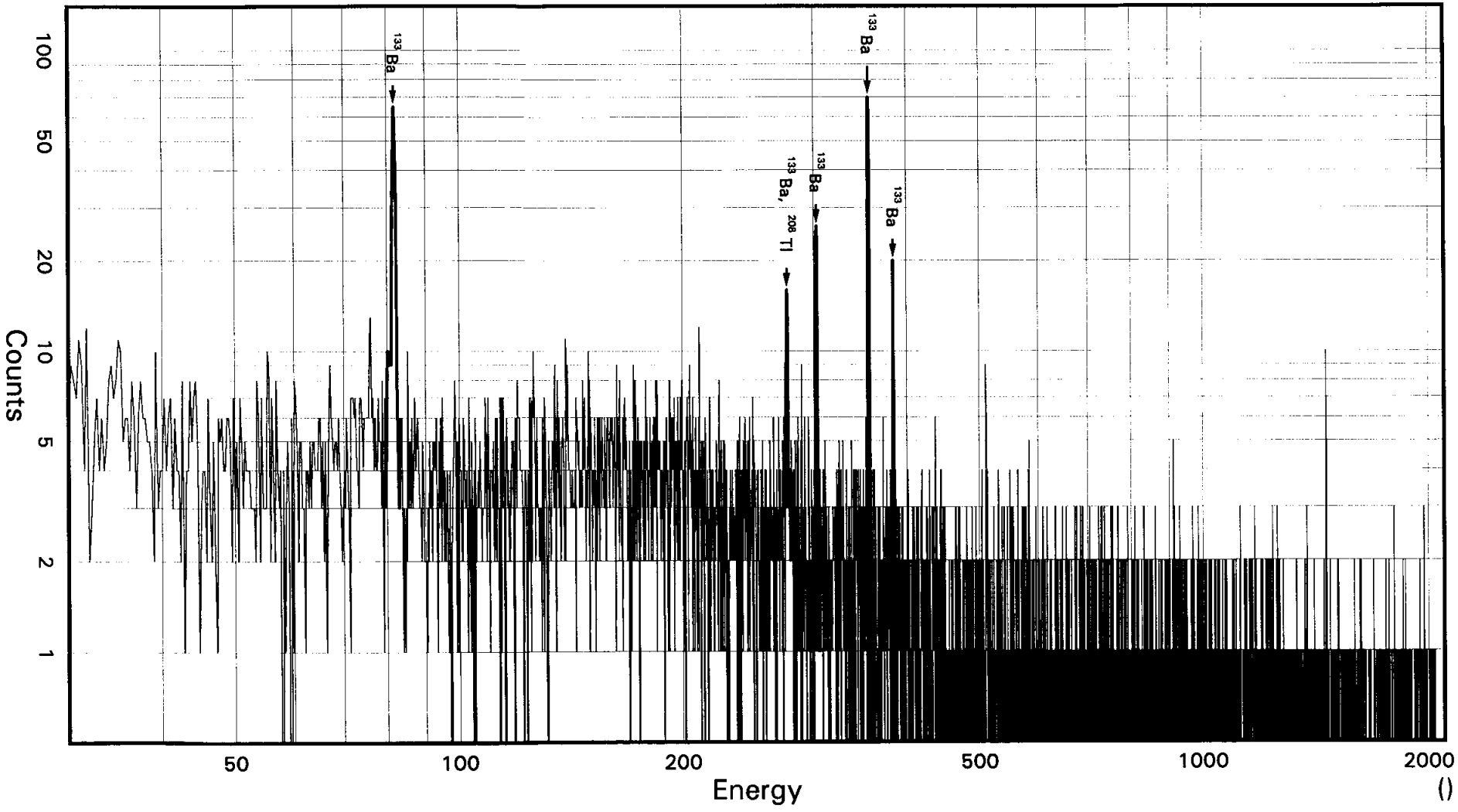
End of Report

STL Richland WA.

BA133

Sample ID: H8MXT1AC
Detector ID: GER13 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 08:49:53.54
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -6.09008E-01
Slope: 2.50740E-01
Quadrature: -1.00977E-07

SAMPLE IDENTIFICATION: H8MXT1AC

CONFIGURATION ID: GER13:H8MXT1AC_180760849
TITLE : BA133
SAMPLE ID : H8MXT1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 08:49:53
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:20:02.06
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6090E+00 keV
ENERGY SLOPE: 2.5074E-01 keV/C
ENERGY Q COEFF: -.1010E-06 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3392E-01 keV
FWHM SLOPE: 4.4080E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:20:38

```
Configuration     : $DISK1:[GER13.SAMPLE]H8MXT1AC_180760849.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 08:49:53
Sample ID         : H8MXT1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.38   0.0%
Start energy      :    19.45             End energy       :  2046.68
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.82	216	84	0.89	328.77	320	16	1.20E-01	11.7	
2	0	276.10	64	58	1.64	1104.05	1097	20	3.58E-02	30.9	
3	0	302.70	131	23	1.14	1210.25	1203	19	7.30E-02	12.4	
4	0	355.73	389	12	1.27	1421.95	1412	17	2.16E-01	5.5	
5	0	383.79	58	16	0.38	1534.02	1525	17	3.23E-02	20.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:20:38

Configuration	: $DISK1:[GER13.SAMPLE]H8MXT1AC_180760849.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 08:49:53
Sample ID	: H8MXT1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.38 0.0%
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00		

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	216	33.00	2.704E+00	8.074E+02	8.082E+02	12.87
	276.40	64	6.90	2.897E+00	1.075E+03	1.076E+03	31.38
	302.84	131	17.80	2.900E+00	8.478E+02	8.487E+02	13.56
	356.00	389	62.05*	2.903E+00	7.198E+02	7.205E+02	7.69
	383.85	58	8.70	2.902E+00	7.674E+02	7.682E+02	21.49

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8MXT1AC

Acquisition date : 18-JUL-2006 08:49:53

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.090E+03	31.38	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:20:40

Configuration : $DISK1:[GER13.SAMPLE]H8MXT1AC_180760849.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MXT1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 08:49:53
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.38 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.205E+02	5.539E+01	4.681E+01	9.363E-01	15.391

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.037E+01		6.147E+01	2.182E+02	4.376E+00	-0.185
NA-22	-2.442E+00		4.221E+00	1.595E+01	3.364E-01	-0.153
K-40	5.248E+01		1.010E+02	4.780E+02	1.021E+01	0.110
SC-46	9.086E+00		4.888E+00	2.451E+01	5.117E-01	0.371
CR-51	3.835E+01		1.035E+02	3.814E+02	7.630E+00	0.101
MN-54	-7.450E+00		5.422E+00	1.791E+01	3.668E-01	-0.416
CO-57	-6.793E+01		1.107E+02	3.882E+02	8.003E+00	-0.175
CO-58	-4.859E-01		5.863E+00	2.244E+01	4.588E-01	-0.022
FE-59	8.722E+00		9.389E+00	4.031E+01	8.406E-01	0.216
CO-60	-3.931E-01		4.570E+00	1.807E+01	3.828E-01	-0.022
ZN-65	-2.284E+01		1.082E+01	3.146E+01	6.567E-01	-0.726
SE-75	-1.767E+00		1.588E+01	5.744E+01	1.152E+00	-0.031
SR-85	-2.293E+01		1.034E+01	3.281E+01	6.592E-01	-0.699
Y-88	-1.282E+00		2.920E+00	1.217E+01	2.658E-01	-0.105
NB-94	-1.956E+00		5.481E+00	2.031E+01	4.170E-01	-0.096
NB-95	5.014E+00		6.117E+00	2.540E+01	5.179E-01	0.197
TC-95M	4.123E+01		1.953E+01	7.441E+01	1.503E+00	0.554
ZR-95	8.116E+00		1.215E+01	4.856E+01	9.894E-01	0.167
ZRNB-95	1.217E+01		1.137E+01	4.830E+01	9.849E-01	0.252
MO-99	9.405E+01		5.758E+01	2.207E+02	4.540E+00	0.426
RH-101	1.971E+01		1.588E+01	5.906E+01	1.195E+00	0.334
RH-102M	-2.302E-03		6.152E+00	2.330E+01	4.673E-01	0.000
RU-103	-9.594E+00		8.746E+00	2.932E+01	5.885E-01	-0.327
RU-106DA	1.854E+01		5.631E+01	2.230E+02	4.507E+00	0.083
AG-108M	1.810E+00		8.496E+00	3.176E+01	6.360E-01	0.057
AG-110M	-6.357E+00		7.326E+00	2.569E+01	5.280E-01	-0.247
SN-113DA	2.953E+00		1.191E+01	4.506E+01	9.015E-01	0.066

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-6.472E+00		6.114E+00	2.110E+01	4.258E-01	-0.307
SB-125	5.182E+00		2.479E+01	9.336E+01	1.869E+00	0.056
SN-126DA	1.437E+00		5.265E+00	2.080E+01	4.213E-01	0.069
I-131	3.393E+00		1.461E+01	5.579E+01	1.116E+00	0.061
CS-134	-2.792E+00		4.378E+00	1.657E+01	3.386E-01	-0.168
CS-137DA	-7.698E+00		7.021E+00	2.379E+01	4.819E-01	-0.324
LA-138	1.951E+00		4.053E+00	1.974E+01	4.208E-01	0.099
CE-139	-3.395E+00		1.527E+01	5.372E+01	1.095E+00	-0.063
BA-140	-1.563E+01		3.474E+01	1.276E+02	2.567E+00	-0.122
BALA-140	-3.705E+00		9.478E+00	3.830E+01	8.249E-01	-0.097
LA-140	-2.012E+01		3.830E+01	1.518E+02	3.269E+00	-0.133
CE-141	8.718E+00		2.702E+01	9.854E+01	2.023E+00	0.088
CE-144	2.365E+01		1.022E+02	3.752E+02	7.744E+00	0.063
CEPR-144	4.019E+01		2.040E+02	7.479E+02	1.544E+01	0.054
PM-144	3.144E+00		5.699E+00	2.291E+01	4.628E-01	0.137
PM-146	-6.305E+00		8.201E+00	2.916E+01	5.843E-01	-0.216
EU-152	-3.577E+01		3.556E+01	1.187E+02	2.373E+00	-0.301
EU-154	-6.852E+00		1.185E+01	4.475E+01	9.442E-01	-0.153
EU-155	-4.444E+00		4.777E+01	1.696E+02	3.561E+00	-0.026
HF-181	1.063E+01		8.484E+00	3.474E+01	6.969E-01	0.306
BI-207	7.032E+00		6.652E+00	2.706E+01	5.451E-01	0.260
TL-208	7.155E+00		8.570E+00	3.642E+01	7.342E-01	0.196
BI-210M	-7.402E+00		1.861E+01	6.611E+01	1.326E+00	-0.112
BI-212	1.137E+02		1.025E+02	4.170E+02	1.274E+01	0.273
PB-212	-2.885E+01		2.343E+01	8.314E+01	1.671E+00	-0.347
BI-214	-2.593E+01		1.608E+01	6.129E+01	1.237E+00	-0.423
PB-214	-9.768E+00		2.780E+01	9.214E+01	1.843E+00	-0.106
RA-223	4.173E+01		7.181E+01	2.674E+02	5.362E+00	0.156
RA-224DA	-2.902E+01		2.357E+01	8.362E+01	1.681E+00	-0.347
RA-226DA	-2.573E+01		1.609E+01	6.139E+01	1.239E+00	-0.419
AC-227DA	-6.563E+00		8.504E+01	3.095E+02	6.225E+00	-0.021
AC-228	1.756E+01		2.261E+01	9.881E+01	2.034E+00	0.178
RA-228DA	1.760E+01		2.265E+01	9.900E+01	2.038E+00	0.178
TH-228DA	2.003E+01		2.399E+01	1.020E+02	2.056E+00	0.196
TH-232DA	-3.778E+01		6.745E+01	2.341E+02	4.683E+00	-0.161
TH-234DA	2.346E+02		8.408E+02	3.345E+03	6.929E+01	0.070
U-234DA	1.057E+01		4.530E+01	1.668E+02	3.339E+00	0.063
U-235HP	6.651E+01		1.036E+02	3.856E+02	7.922E+00	0.173
NP-237DA	1.792E+01		2.440E+01	9.194E+01	1.840E+00	0.195
U-238DA	-9.768E+00		2.780E+01	9.214E+01	1.843E+00	-0.106
U-238DHP	-3.254E+00		2.842E+02	1.038E+03	2.291E+01	-0.003
AM-241HP	3.078E+01		2.886E+01	1.118E+02	2.484E+00	0.275

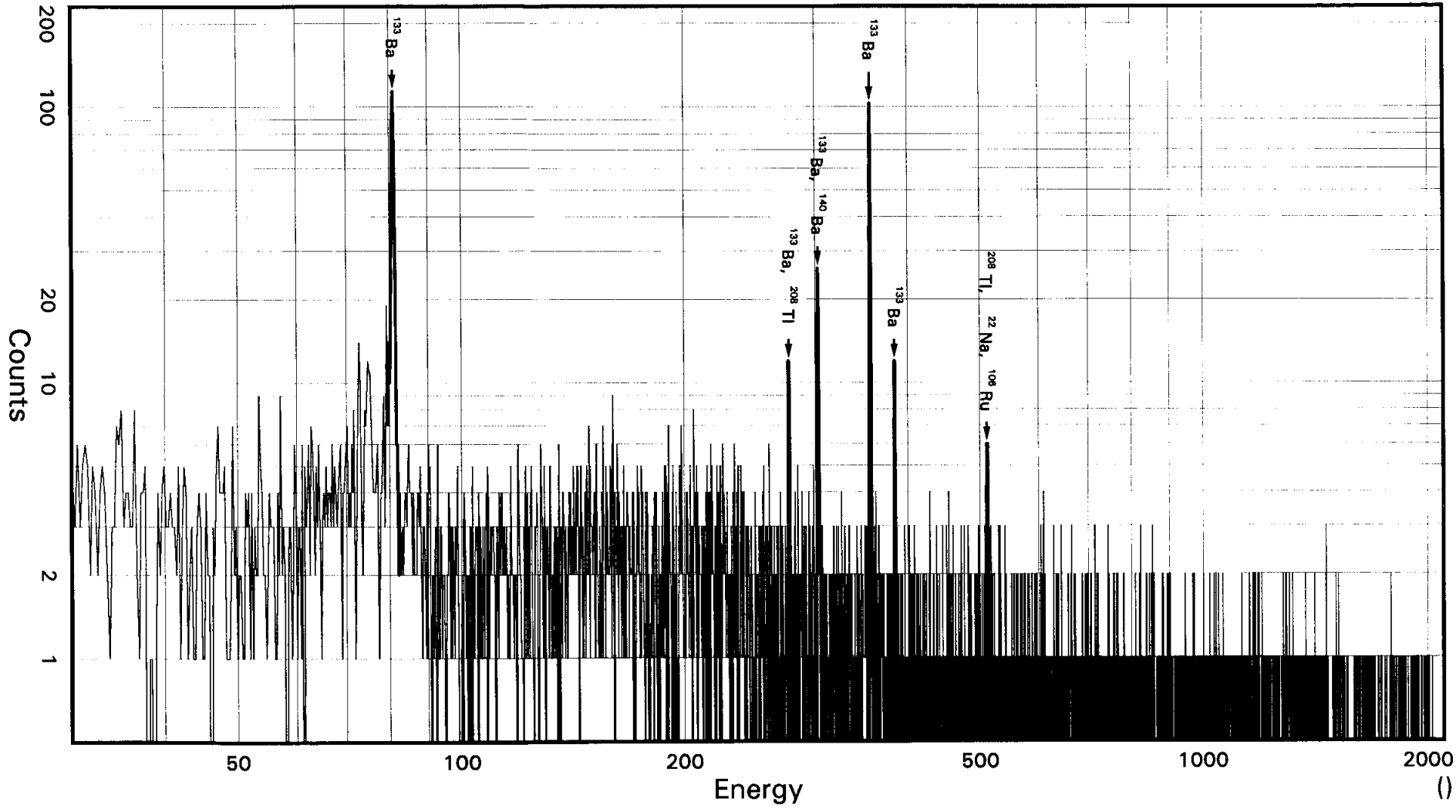
STL Richland WA.

BA133

Sample ID: H8MXV1AC

Detector ID: GER12 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 08:49:59.21

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 1.25404E+01

Slope: 2.46409E-01

Quadrature: 2.23908E-09

SAMPLE IDENTIFICATION: H8MXV1AC

CONFIGURATION ID: GER12:H8MXV1AC_180760849
TITLE : BA133
SAMPLE ID : H8MXV1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 08:49:59
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:03:01.16
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.2540E+01 keV
ENERGY SLOPE: 2.4641E-01 keV/C
ENERGY Q COEFF: 2.2391E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.6831E-01 keV
FWHM SLOPE: 3.7873E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 2.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:20:53

Configuration : $DISK1:[GER12.SAMPLE]H8MXV1AC_180760849.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 08:49:59
Sample ID : H8MXV1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.34 0.0%
Start energy : 12.79 End energy : 2031.28
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.30*	15	95	2.82	254.70	240	19	8.60E-03	156.3	
2	0	81.07	311	91	0.70	278.10	272	12	1.73E-01	8.5	
3	0	160.07	29	11	0.65	598.73	592	11	1.59E-02	29.3	
4	0	276.53	57	10	1.27	1071.34	1064	13	3.16E-02	17.4	
5	0	302.85	148	0	1.23	1178.14	1170	18	8.22E-02	8.2	
6	0	356.02	475	10	0.98	1393.93	1384	20	2.64E-01	4.9	
7	0	383.81	67	5	1.27	1506.69	1496	18	3.71E-02	14.4	
8	0	511.06*	14	4	2.17	2023.08	2015	16	7.52E-03	59.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:20:53

Configuration : $DISK1:[GER12.SAMPLE]H8MXV1AC_180760849.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 08:49:59
Sample ID : H8MXV1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.34 0.0%
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	311	33.00	2.900E+00	1.082E+03	1.083E+03	10.05
	276.40	57	6.90	3.105E+00	8.860E+02	8.870E+02	18.26
	302.84	148	17.80	3.109E+00	8.915E+02	8.925E+02	9.83
	356.00	475	62.05*	3.111E+00	8.201E+02	8.210E+02	7.26
	383.85	67	8.70	3.111E+00	8.234E+02	8.243E+02	15.34

Flag: "*" = Keyline

Sample ID : H8MXV1AC Acquisition date : 18-JUL-2006 08:49:59

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.30	15	95	2.82	254.70	240	19	8.60E-03	****	2.88E+00	
0	160.07	29	11	0.65	598.73	592	11	1.59E-02	29.3	3.05E+00	
0	511.06	14	4	2.17	2023.08	2015	16	7.52E-03	59.4	3.10E+00	T

Flags: "T" = Tentatively associated

Sample ID : H8MXV1AC Acquisition date : 18-JUL-2006 08:49:59

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	8.135E+00	59.66	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	7.144E+01	59.66	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
BA-140	12.79D	0.46	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	4.850E+03	9.83	
			423.70	3.20	--- Not Found ---		
			537.32*	25.00	--- Not Found ---		
		% Abundances Found =		11.42			
TL-208	1.41E+10Y	0.00	277.35	6.80	8.991E+02	18.26	Abun.
			510.84	21.60	6.738E+01	59.66	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:20:55

Configuration : $DISK1:[GER12.SAMPLE]H8MXV1AC_180760849.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MXV1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 2.00
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 08:49:59
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.34 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	8.210E+02	5.961E+01	3.683E+01	7.366E-01	22.292

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	8.453E+00		4.087E+01	1.670E+02	3.349E+00	0.051
NA-22	-2.430E+00		2.354E+00	8.342E+00	1.758E-01	-0.291
K-40	-3.213E+01		4.408E+01	2.152E+02	4.589E+00	-0.149
SC-46	2.366E+00		3.707E+00	1.654E+01	3.450E-01	0.143
CR-51	-4.124E+01		6.340E+01	2.247E+02	4.496E+00	-0.184
MN-54	-4.338E+00		4.136E+00	1.456E+01	2.981E-01	-0.298
CO-57	9.924E+01		7.086E+01	2.847E+02	5.864E+00	0.349
CO-58	2.434E+00		3.661E+00	1.644E+01	3.361E-01	0.148
FE-59	-6.394E+00		4.808E+00	1.591E+01	3.316E-01	-0.402
CO-60	4.578E+00		2.778E+00	1.488E+01	3.147E-01	0.308
ZN-65	-2.174E+00		6.695E+00	2.687E+01	5.604E-01	-0.081
SE-75	1.041E+01		1.012E+01	4.127E+01	8.278E-01	0.252
SR-85	-9.954E+00		8.278E+00	2.700E+01	5.423E-01	-0.369
Y-88	-1.246E+00		2.131E+00	8.981E+00	1.959E-01	-0.139
NB-94	7.625E-01		3.608E+00	1.520E+01	3.119E-01	0.050
NB-95	2.715E+00		4.185E+00	1.844E+01	3.758E-01	0.147
TC-95M	-2.005E+01		1.311E+01	4.419E+01	8.926E-01	-0.454
ZR-95	1.090E+01		7.499E+00	3.502E+01	7.133E-01	0.311
ZRNB-95	5.151E+00		7.939E+00	3.497E+01	7.128E-01	0.147
MO-99	-1.397E+01		3.959E+01	1.452E+02	2.986E+00	-0.096
RH-101	3.554E+01		1.035E+01	4.542E+01	9.185E-01	0.782
RH-102M	-3.882E+00		5.062E+00	1.800E+01	3.609E-01	-0.216
RU-103	-3.411E+00		5.862E+00	2.124E+01	4.264E-01	-0.161
RU-106DA	-3.526E+01		4.001E+01	1.443E+02	2.915E+00	-0.244
AG-108M	-4.236E+00		5.937E+00	2.124E+01	4.253E-01	-0.199
AG-110M	-3.183E+00		4.907E+00	1.849E+01	3.798E-01	-0.172
SN-113DA	7.129E+00		6.783E+00	2.978E+01	5.958E-01	0.239

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	2.861E+00		4.754E+00	1.998E+01	4.033E-01	0.143
SB-125	2.575E+01		1.608E+01	7.153E+01	1.432E+00	0.360
SN-126DA	-4.068E+00		4.197E+00	1.474E+01	2.985E-01	-0.276
I-131	-6.480E-01		1.186E+01	4.522E+01	9.044E-01	-0.014
CS-134	-3.682E+00		3.345E+00	1.195E+01	2.440E-01	-0.308
CS-137DA	-6.008E+00		4.394E+00	1.448E+01	2.931E-01	-0.415
LA-138	2.002E+00		3.885E+00	1.877E+01	3.997E-01	0.107
CE-139	-1.530E+01		1.062E+01	3.460E+01	7.051E-01	-0.442
BA-140	8.479E+00		1.936E+01	8.447E+01	1.699E+00	0.100
BALA-140	9.953E+00		5.772E+00	3.569E+01	7.674E-01	0.279
LA-140	3.023E+01		2.043E+01	1.318E+02	2.834E+00	0.229
CE-141	-2.075E+01		1.971E+01	6.693E+01	1.374E+00	-0.310
CE-144	-5.603E+01		6.674E+01	2.337E+02	4.821E+00	-0.240
CEPR-144	-1.104E+02		1.336E+02	4.683E+02	9.660E+00	-0.236
PM-144	3.279E+00		4.542E+00	1.918E+01	3.873E-01	0.171
PM-146	-1.580E+00		8.068E+00	3.030E+01	6.071E-01	-0.052
EU-152	2.397E+00		2.125E+01	8.274E+01	1.655E+00	0.029
EU-154	-3.485E+00		5.693E+00	2.341E+01	4.934E-01	-0.149
EU-155	1.023E+00		3.404E+01	1.292E+02	2.709E+00	0.008
HF-181	1.131E+00		5.664E+00	2.276E+01	4.566E-01	0.050
BI-207	1.716E+00		4.528E+00	1.865E+01	3.756E-01	0.092
TL-208	-2.455E+00		4.368E+00	1.669E+01	3.365E-01	-0.147
BI-210M	-3.063E+00		1.227E+01	4.525E+01	9.074E-01	-0.068
BI-212	6.335E+01		5.339E+01	2.484E+02	7.587E+00	0.255
PB-212	2.888E+01		1.747E+01	7.031E+01	1.413E+00	0.411
BI-214	3.221E+01		1.240E+01	5.576E+01	1.126E+00	0.578
PB-214	-2.642E+00		2.059E+01	6.583E+01	1.317E+00	-0.040
RA-223	4.706E+01		4.044E+01	1.683E+02	3.375E+00	0.280
RA-224DA	2.905E+01		1.757E+01	7.072E+01	1.422E+00	0.411
RA-226DA	3.221E+01		1.240E+01	5.576E+01	1.126E+00	0.578
AC-227DA	-1.489E+02		7.054E+01	2.233E+02	4.490E+00	-0.667
AC-228	-8.022E+00		9.961E+00	3.740E+01	7.695E-01	-0.215
RA-228DA	-8.038E+00		9.980E+00	3.747E+01	7.710E-01	-0.215
TH-228DA	-6.873E+00		1.223E+01	4.673E+01	9.420E-01	-0.147
TH-232DA	-5.294E+01		4.359E+01	1.439E+02	2.878E+00	-0.368
TH-234DA	5.558E+02		5.591E+02	2.571E+03	5.321E+01	0.216
U-234DA	5.934E+01		3.053E+01	1.311E+02	2.624E+00	0.453
U-235HP	2.164E+01		7.853E+01	2.911E+02	5.979E+00	0.074
NP-237DA	1.154E+01		1.299E+01	5.448E+01	1.090E+00	0.212
U-238DA	-2.642E+00		2.059E+01	6.583E+01	1.317E+00	-0.040
U-238DHP	3.872E+02		2.409E+02	9.487E+02	2.089E+01	0.408
AM-241HP	1.664E+01		2.128E+01	8.291E+01	1.838E+00	0.201

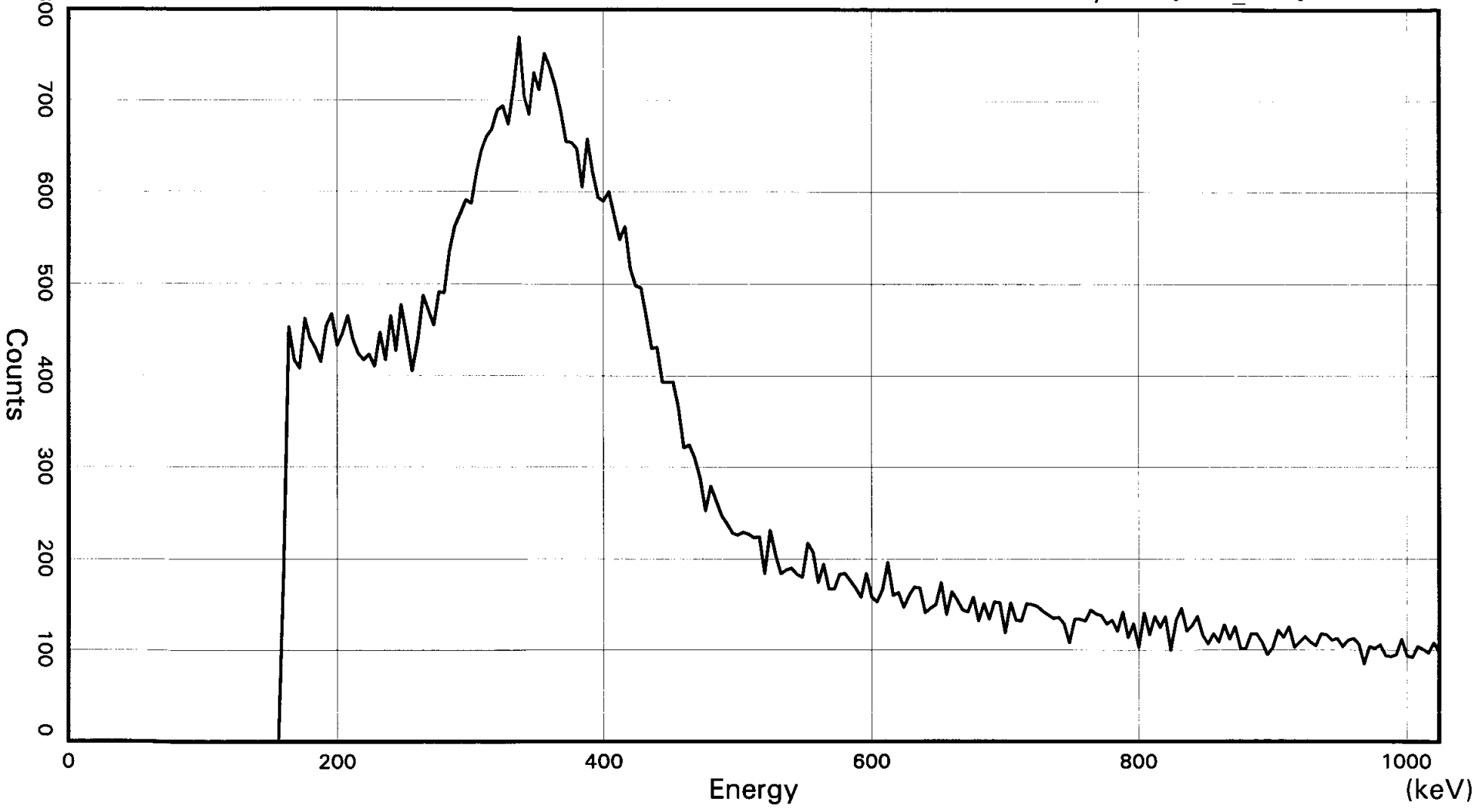
STL Richland WA.

BA133

Sample ID: H8MXW1AC

Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start:	18-JUL-2006 09:23:49.45	Start Channel:	80
Preset Live Time:	0 00:30:00	End Channel:	113
Elapsed Live Time:	0 00:30:00	Iterations:	5
Weighting:	DERIVED	Gain shift:	Iter

SAMPLE IDENTIFICATION: H8MXW1AC

CONFIGURATION ID: NAI1:H8MXW1AC_180760923
TITLE : BA133
SAMPLE ID : H8MXW1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:23:49
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 18-JUL-2006 09:53:56

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H8MXW1AC_180760923.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:23:49
Sample ID	: H8MXW1AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.65 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	5.2	4.9	3.7	4.4	6.5	2.3	2.2	2.1
88:	0.6	2.5	1.7	0.3	0.0	-3.2	-1.9	-1.0
96:	-2.2	-0.8	-1.1	-2.5	-4.0	-1.0	-2.5	-2.8
104:	-2.4	-3.7	-3.7	-2.7	-3.3	-4.0	-3.8	-4.5
112:	-2.9	-3.2						

List of Suspicious Channels

81 82 83 84 85 86

NAI Fit Report

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	9.33E+00	0.00E+00	1.03E+00
2	4.14E+00	0.00E+00	1.05E+00
3	2.09E+00	0.00E+00	1.06E+00
4	1.09E+00	0.00E+00	1.07E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	715.	9.50

Total Activity :	715.	

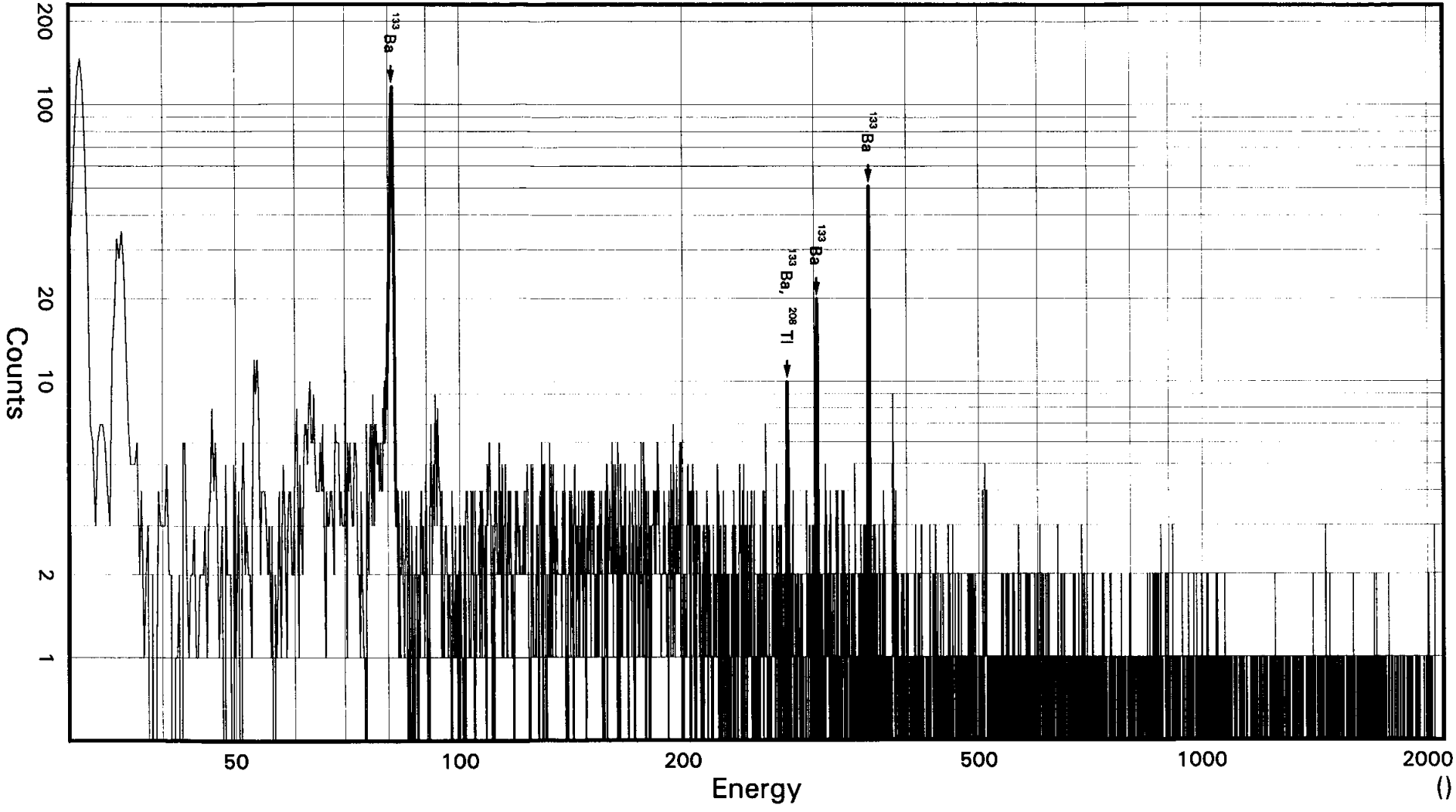
STL Richland WA.

BA133

Sample ID: H8MXX1AC

Detector ID: GER5 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:23:56.81

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -3.89940E-01

Slope: 2.49420E-01

Quadrature: -2.39813E-09

SAMPLE IDENTIFICATION: H8MXX1AC

CONFIGURATION ID: GER5:H8MXX1AC_180760923
TITLE : BA133
SAMPLE ID : H8MXX1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:23:56
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:01:30.72
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.3899E+00 keV
ENERGY SLOPE: 2.4942E-01 keV/C
ENERGY Q COEFF: -.2398E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.4664E-01 keV
FWHM SLOPE: 2.8479E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:54:11

```
Configuration     : RDND06$DKA100:[GER5.SAMPLE]H8MXX1AC_180760923.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:23:56
Sample ID         : H8MXX1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.22   0.0%
Start energy      :    19.56             End energy       :  2042.70
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	2	30.99	596	74	1.03	125.82	117	37	3.31E-01	5.0	1.08E+00
2	2	35.14	146	32	1.11	142.43	117	37	8.09E-02	14.2	
3	0	53.81	53	23	1.01	217.30	211	17	2.93E-02	25.7	
4	0	80.98	396	64	0.68	326.24	318	16	2.20E-01	6.7	
5	0	276.39	37	10	0.60	1109.71	1102	14	2.04E-02	24.9	
6	0	302.78	104	4	1.22	1215.50	1207	15	5.77E-02	10.6	
7	0	356.06	251	12	1.06	1429.16	1421	18	1.39E-01	7.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 18-JUL-2006 09:54:12

Configuration : RDND06$DKA100:[GER5.SAMPLE]H8MXX1AC_180760923.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:23:56
Sample ID : H8MXX1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	396	33.00	1.924E+00	2.081E+03	2.084E+03	8.67
	276.40	37	6.90	2.077E+00	8.532E+02	8.541E+02	25.52
	302.84	104	17.80	2.080E+00	9.350E+02	9.360E+02	11.93
	356.00	251	62.05*	2.082E+00	6.479E+02	6.486E+02	8.96
	383.85	------	8.70	2.081E+00	------ Line Not Found		------

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8MXX1AC

Acquisition date : 18-JUL-2006 09:23:56

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
2	30.99	596	74	1.03	125.82	117	37	3.31E-01	5.0	1.68E+00	
2	35.14	146	32	1.11	142.43	117	37	8.09E-02	14.2	1.72E+00	
0	53.81	53	23	1.01	217.30	211	17	2.93E-02	25.7	1.83E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8MXX1AC

Acquisition date : 18-JUL-2006 09:23:56

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	8.658E+02	25.52	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 18-JUL-2006 09:54:13

Configuration : RDND06$DKA100:[GER5.SAMPLE]H8MXX1AC_180760923.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MXX1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:23:56
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.486E+02	5.814E+01	6.107E+01	1.221E+00	10.621

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.619E+01		5.359E+01	1.997E+02	4.007E+00	-0.181
NA-22	1.706E+00		1.708E+00	1.254E+01	2.660E-01	0.136
NA-24	0.000E+00		2.680E-05	Half-Life too short		
K-40	2.781E+01		6.139E+01	3.139E+02	6.743E+00	0.089
SC-46	-1.180E-01		4.366E+00	1.896E+01	3.976E-01	-0.006
CR-51	8.773E+01		1.042E+02	4.223E+02	8.450E+00	0.208
MN-54	-3.737E+00		4.860E+00	1.792E+01	3.678E-01	-0.209
CO-57	-4.377E+01		1.276E+02	4.445E+02	9.188E+00	-0.098
CO-58	-5.532E+00		4.050E+00	1.286E+01	2.635E-01	-0.430
FE-59	-9.918E+00		5.751E+00	8.788E+00	1.840E-01	-1.129
CO-60	-3.296E+00		3.361E+00	1.256E+01	2.674E-01	-0.262
ZN-65	-1.717E+01		7.733E+00	9.088E+00	1.905E-01	-1.889
SE-75	8.119E+00		1.688E+01	6.466E+01	1.297E+00	0.126
SR-85	-1.494E+01		1.044E+01	3.397E+01	6.827E-01	-0.440
Y-88	1.870E+00		3.181E+00	1.711E+01	3.770E-01	0.109
NB-94	3.521E+00		4.587E+00	2.159E+01	4.444E-01	0.163
NB-95	-3.871E+00		4.592E+00	1.709E+01	3.490E-01	-0.227
TC-95M	4.411E+01		2.109E+01	8.461E+01	1.711E+00	0.521
ZR-95	-2.276E+01		1.162E+01	3.389E+01	6.917E-01	-0.672
ZRNB-95	-7.341E+00		8.709E+00	3.240E+01	6.618E-01	-0.227
MO-99	-3.484E+01		5.981E+01	2.144E+02	4.422E+00	-0.163
RH-101	3.183E+01		1.912E+01	7.465E+01	1.511E+00	0.426
RH-102M	5.213E-01		5.559E+00	2.301E+01	4.615E-01	0.023
RU-103	-7.321E+00		6.710E+00	2.314E+01	4.647E-01	-0.316
RU-106DA	-2.166E+01		6.269E+01	2.431E+02	4.917E+00	-0.089
AG-108M	-2.089E+00		8.189E+00	3.093E+01	6.195E-01	-0.068
AG-110M	1.126E+00		1.614E+00	1.374E+01	2.831E-01	0.082

---- Non-Identified Nuclides ----

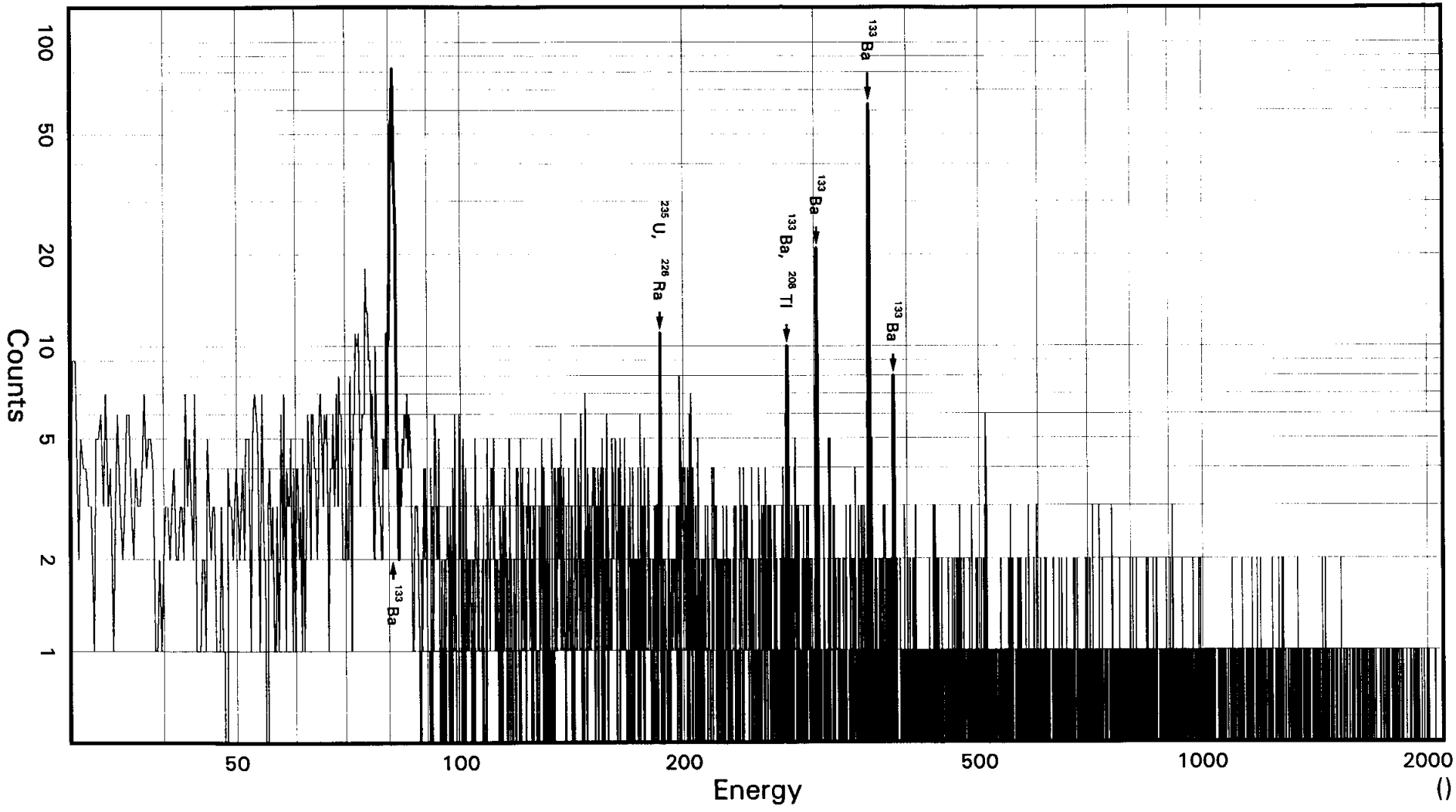
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-7.212E+00		1.163E+01	4.259E+01	8.520E-01	-0.169
SB-124	5.760E+00		6.324E+00	2.817E+01	5.690E-01	0.204
SB-125	1.635E+01		1.984E+01	8.702E+01	1.742E+00	0.188
SN-126DA	-8.704E+00		5.263E+00	1.649E+01	3.345E-01	-0.528
I-131	-1.087E+00		1.686E+01	6.438E+01	1.288E+00	-0.017
CS-134	-2.413E+00		7.093E+00	2.719E+01	5.567E-01	-0.089
CS-137DA	-4.074E+00		6.510E+00	2.457E+01	4.982E-01	-0.166
LA-138	-7.709E+00		4.471E+00	6.958E+00	1.492E-01	-1.108
CE-139	7.568E+00		1.671E+01	6.270E+01	1.281E+00	0.121
BA-140	2.356E+01		3.519E+01	1.478E+02	2.973E+00	0.159
BALA-140	1.768E+00		1.289E+01	5.674E+01	1.230E+00	0.031
LA-140	1.898E+01		5.599E+01	2.507E+02	5.436E+00	0.076
CE-141	-1.778E+01		3.010E+01	1.073E+02	2.209E+00	-0.166
CE-144	2.600E+01		1.271E+02	4.576E+02	9.474E+00	0.057
CEPR-144	5.201E+01		2.543E+02	9.152E+02	1.895E+01	0.057
PM-144	4.814E+00		7.768E+00	3.177E+01	6.424E-01	0.152
PM-146	2.725E+00		1.093E+01	4.346E+01	8.711E-01	0.063
EU-152	1.159E+01		3.212E+01	1.265E+02	2.530E+00	0.092
EU-154	4.788E+00		4.795E+00	3.521E+01	7.465E-01	0.136
EU-155	1.923E+01		6.093E+01	2.247E+02	4.740E+00	0.086
HF-181	-5.780E+00		8.017E+00	2.918E+01	5.854E-01	-0.198
BI-207	-2.762E+00		5.571E+00	2.165E+01	4.364E-01	-0.128
TL-208	5.963E+00		8.174E+00	3.447E+01	6.955E-01	0.173
BI-210M	1.161E+00		2.050E+01	7.571E+01	1.519E+00	0.015
BI-212	-1.803E+00		8.638E+01	3.493E+02	1.068E+01	-0.005
PB-212	-3.560E+01		2.908E+01	1.033E+02	2.077E+00	-0.345
BI-214	2.818E+01		1.214E+01	6.083E+01	1.229E+00	0.463
PB-214	3.670E+01		2.915E+01	1.060E+02	2.120E+00	0.346
RA-223	-4.879E+01		7.334E+01	2.566E+02	5.147E+00	-0.190
RA-224DA	-3.581E+01		2.925E+01	1.039E+02	2.089E+00	-0.345
RA-226DA	2.818E+01		1.214E+01	6.083E+01	1.229E+00	0.463
AC-227DA	-1.098E+02		1.025E+02	3.468E+02	6.979E+00	-0.317
AC-228	2.600E+01		2.010E+01	9.937E+01	2.051E+00	0.262
RA-228DA	2.605E+01		2.014E+01	9.956E+01	2.055E+00	0.262
TH-228DA	1.670E+01		2.289E+01	9.651E+01	1.947E+00	0.173
TH-232DA	-1.519E+01		6.690E+01	2.527E+02	5.054E+00	-0.060
TH-234DA	-1.010E+03		7.212E+02	2.375E+03	4.937E+01	-0.425
U-234DA	-9.788E+00		5.310E+01	1.918E+02	3.842E+00	-0.051
U-235HP	6.868E+00		1.218E+02	4.510E+02	9.290E+00	0.015
NP-237DA	1.696E+01		3.011E+01	1.164E+02	2.329E+00	0.146
U-238DA	3.670E+01		2.915E+01	1.060E+02	2.120E+00	0.346
U-238DHP	1.621E+02		5.222E+02	2.002E+03	4.456E+01	0.081
AM-241HP	2.179E+00		4.490E+01	1.627E+02	3.650E+00	0.013

STL Richland WA.

BA133

Sample ID: H8MX31AC
Detector ID: GER7 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:17.08
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 5.82696E-01
Slope: 2.49214E-01
Quadrature: 1.23727E-07

SAMPLE IDENTIFICATION: H8MX31AC

CONFIGURATION ID: GER7:H8MX31AC_180760924
TITLE : BA133
SAMPLE ID : H8MX31AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:17
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:00.79
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 5.8270E-01 keV
ENERGY SLOPE: 2.4921E-01 keV/C
ENERGY Q COEFF: 1.2373E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.3250E-01 keV
FWHM SLOPE: 3.9297E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:54:33

```
Configuration     : $DISK1:[GER7.SAMPLE]H8MX31AC_180760924.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:17
Sample ID         : H8MX31AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.20   0.0%
Start energy      :    20.52             End energy       :  2050.45
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	75.50*	23	62	2.38	300.57	294	17	1.25E-02	90.0	
2	0	81.01	312	65	0.89	322.67	314	16	1.74E-01	8.1	
3	0	186.27*	14	16	0.31	744.83	736	13	7.77E-03	67.5	
4	0	276.19	40	13	1.16	1105.31	1095	18	2.22E-02	26.7	
5	0	302.81	67	18	0.93	1211.98	1202	15	3.73E-02	18.6	
6	0	355.93	278	10	0.86	1424.87	1417	18	1.54E-01	6.5	
7	0	383.83	41	5	1.24	1536.66	1527	18	2.30E-02	19.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:54:34

Configuration : $DISK1:[GER7.SAMPLE]H8MX31AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:17
Sample ID : H8MX31AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.20 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	312	33.00	1.923E+00	1.641E+03	1.643E+03	9.72
	276.40	40	6.90	2.076E+00	9.290E+02	9.300E+02	27.26
	302.84	67	17.80	2.078E+00	6.047E+02	6.054E+02	19.33
	356.00	278	62.05*	2.080E+00	7.178E+02	7.185E+02	8.46
	383.85	41	8.70	2.080E+00	7.630E+02	7.639E+02	20.37

Flag: "*" = Keyline

Unidentified Energy Lines
Page : 2
Sample ID : H8MX31AC
Acquisition date : 18-JUL-2006 09:24:17

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	75.50	23	62	2.38	300.57	294	17	1.25E-02	90.0	1.91E+00	
0	186.27	14	16	0.31	744.83	736	13	7.77E-03	67.5	2.05E+00	T

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8MX31AC

Acquisition date : 18-JUL-2006 09:24:17

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.427E+02	27.26	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-226DA	1600.00Y	0.00	186.21	3.50	6.503E+02	67.73	Abun.
			241.98	7.49	--- Not Found ---		
			295.22	19.20	--- Not Found ---		
			351.92	37.20	--- Not Found ---		
			609.32*	46.30	--- Not Found ---		
			1120.28	15.10	--- Not Found ---		
			1238.11	5.94	--- Not Found ---		
			1764.49	15.80	--- Not Found ---		
		% Abundances Found =		2.33			
U-235HP	7.04E+08Y	0.00	143.76*	10.50	--- Not Found ---		Abun.
			185.71	54.00	4.215E+01	67.73	
			205.31	4.70	--- Not Found ---		
		% Abundances Found =		78.03			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:54:36

Configuration : $DISK1:[GER7.SAMPLE]H8MX31AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MX31AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:17
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.20 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.185E+02	6.076E+01	4.775E+01	9.550E-01	15.047

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	2.941E+01		5.884E+01	2.499E+02	5.013E+00	0.118
NA-22	5.468E+00		4.536E+00	2.262E+01	4.796E-01	0.242
K-40	-3.318E+01		5.469E+01	2.686E+02	5.771E+00	-0.124
SC-46	-1.901E+00		6.399E+00	2.486E+01	5.212E-01	-0.076
CR-51	5.083E+00		1.051E+02	3.931E+02	7.865E+00	0.013
MN-54	-1.699E+00		5.012E+00	2.000E+01	4.107E-01	-0.085
CO-57	2.522E+02		1.126E+02	4.653E+02	9.619E+00	0.542
CO-58	-6.936E+00		4.941E+00	1.624E+01	3.327E-01	-0.427
FE-59	-1.312E+01		1.132E+01	3.905E+01	8.175E-01	-0.336
CO-60	4.591E-02		3.396E+00	1.586E+01	3.377E-01	0.003
ZN-65	6.600E+00		1.069E+01	4.742E+01	9.938E-01	0.139
SE-75	1.227E+01		1.543E+01	6.163E+01	1.237E+00	0.199
SR-85	-2.680E+01		1.027E+01	3.031E+01	6.091E-01	-0.884
Y-88	-5.681E+00		3.294E+00	4.988E+00	1.099E-01	-1.139
NB-94	-3.880E+00		3.228E+00	1.088E+01	2.240E-01	-0.357
NB-95	-7.094E+00		5.128E+00	1.710E+01	3.492E-01	-0.415
TC-95M	1.845E+01		1.935E+01	7.538E+01	1.524E+00	0.245
ZR-95	2.155E+01		1.036E+01	5.195E+01	1.060E+00	0.415
ZRNB-95	-1.345E+01		9.726E+00	3.242E+01	6.622E-01	-0.415
MO-99	-2.867E+01		5.262E+01	1.873E+02	3.864E+00	-0.153
RH-101	2.971E+01		1.738E+01	6.960E+01	1.409E+00	0.427
RH-102M	-6.122E-01		6.948E+00	2.692E+01	5.401E-01	-0.023
RU-103	3.531E+00		6.499E+00	2.826E+01	5.675E-01	0.125
RU-106DA	-3.514E+00		3.284E+01	1.499E+02	3.031E+00	-0.023
AG-108M	-3.999E+00		9.184E+00	3.356E+01	6.722E-01	-0.119
AG-110M	-2.478E+00		5.244E+00	2.145E+01	4.419E-01	-0.116
SN-113DA	9.141E+00		7.880E+00	3.732E+01	7.467E-01	0.245

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	3.533E+00		5.012E+00	2.319E+01	4.683E-01	0.152
SB-125	-1.846E+00		2.194E+01	8.599E+01	1.722E+00	-0.021
SN-126DA	1.345E+00		5.478E+00	2.291E+01	4.648E-01	0.059
I-131	1.662E+01		1.479E+01	6.345E+01	1.269E+00	0.262
CS-134	-7.557E+00		6.067E+00	2.077E+01	4.251E-01	-0.364
CS-137DA	3.513E+00		6.707E+00	2.866E+01	5.811E-01	0.123
LA-138	5.329E+00		3.716E+00	2.419E+01	5.188E-01	0.220
CE-139	1.548E+01		1.420E+01	5.554E+01	1.134E+00	0.279
BA-140	-5.019E+01		3.251E+01	1.066E+02	2.144E+00	-0.471
BALA-140	1.015E+01		9.970E+00	5.389E+01	1.169E+00	0.188
LA-140	4.235E+01		4.159E+01	2.248E+02	4.875E+00	0.188
CE-141	-6.475E+00		2.816E+01	1.013E+02	2.086E+00	-0.064
CE-144	-1.386E+02		1.084E+02	3.645E+02	7.546E+00	-0.380
CEPR-144	-2.785E+02		2.168E+02	7.284E+02	1.508E+01	-0.382
PM-144	-2.022E-01		5.233E+00	2.153E+01	4.353E-01	-0.009
PM-146	-1.774E+00		7.716E+00	3.088E+01	6.189E-01	-0.057
EU-152	-3.652E+01		3.271E+01	1.138E+02	2.277E+00	-0.321
EU-154	7.949E+00		1.304E+01	6.058E+01	1.285E+00	0.131
EU-155	4.426E+01		4.554E+01	1.860E+02	3.923E+00	0.238
HF-181	3.452E+00		8.151E+00	3.375E+01	6.772E-01	0.102
BI-207	-3.087E+00		6.130E+00	2.330E+01	4.697E-01	-0.132
TL-208	-2.406E+00		6.282E+00	2.705E+01	5.458E-01	-0.089
BI-210M	3.878E+01		1.660E+01	7.406E+01	1.486E+00	0.524
BI-212	1.290E+02		8.873E+01	4.136E+02	1.265E+01	0.312
PB-212	-2.234E+01		2.407E+01	8.875E+01	1.785E+00	-0.252
BI-214	-3.615E+00		1.264E+01	4.928E+01	9.958E-01	-0.073
PB-214	-5.702E+00		2.531E+01	8.481E+01	1.696E+00	-0.067
RA-223	-6.241E+01		6.188E+01	2.136E+02	4.284E+00	-0.292
RA-224DA	-2.248E+01		2.421E+01	8.927E+01	1.796E+00	-0.252
RA-226DA	-3.615E+00		1.264E+01	4.928E+01	9.959E-01	-0.073
AC-227DA	-2.272E+02		9.081E+01	2.709E+02	5.450E+00	-0.839
AC-228	2.524E+01		2.216E+01	1.039E+02	2.146E+00	0.243
RA-228DA	2.529E+01		2.221E+01	1.041E+02	2.150E+00	0.243
TH-228DA	-6.736E+00		1.759E+01	7.574E+01	1.528E+00	-0.089
TH-232DA	-1.195E+02		6.339E+01	2.023E+02	4.046E+00	-0.591
TH-234DA	5.268E+02		6.222E+02	3.074E+03	6.390E+01	0.171
U-234DA	3.120E+01		4.513E+01	1.789E+02	3.583E+00	0.174
U-235HP	8.997E+01		1.092E+02	4.213E+02	8.679E+00	0.214
NP-237DA	-3.965E+01		2.539E+01	8.114E+01	1.624E+00	-0.489
U-238DA	-5.702E+00		2.531E+01	8.481E+01	1.696E+00	-0.067
U-238DHP	-7.897E+01		4.239E+02	1.522E+03	3.389E+01	-0.052
AM-241HP	4.930E+00		3.927E+01	1.435E+02	3.219E+00	0.034

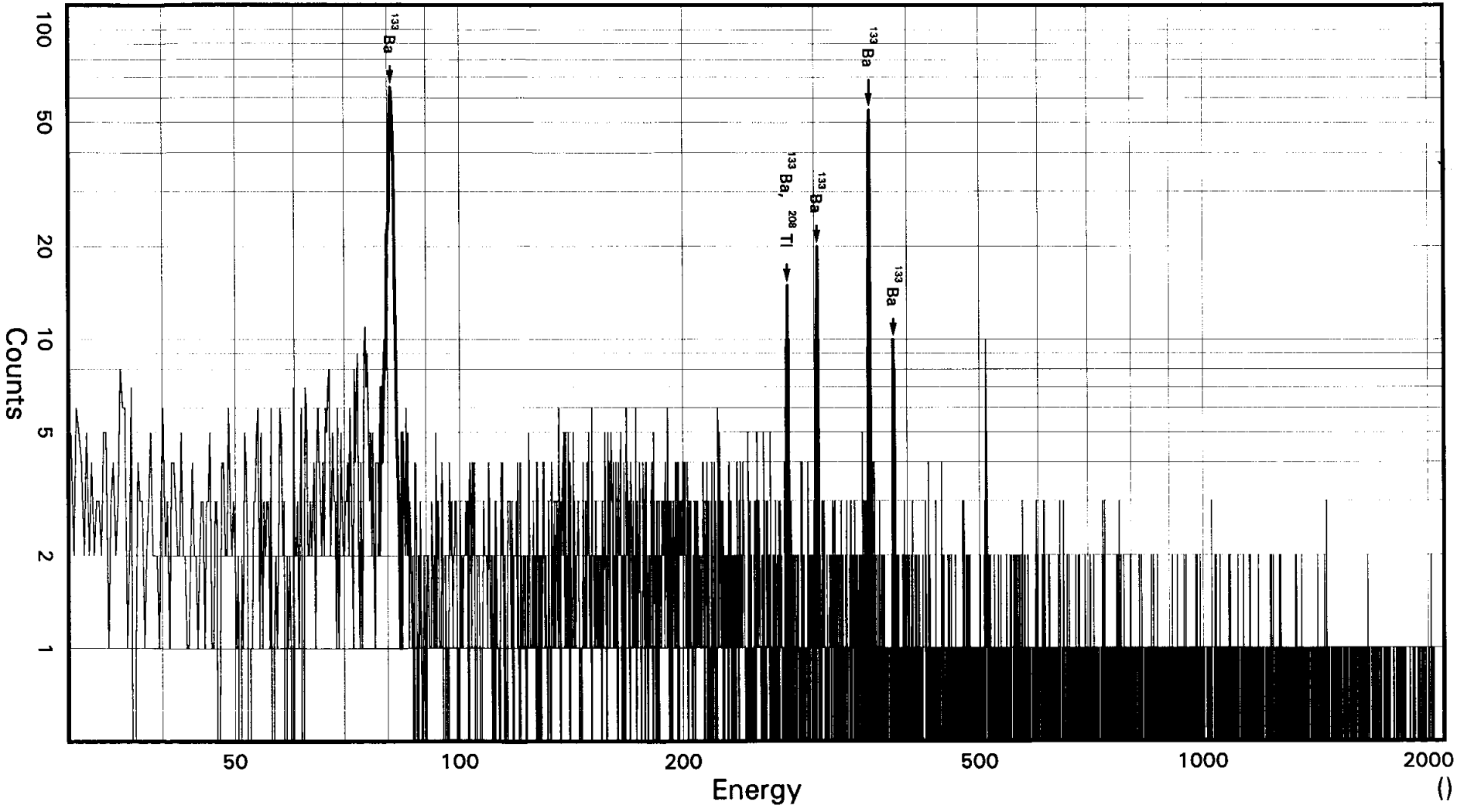
STL Richland WA.

BA1333

Sample ID: H8MX61AC

Detector ID: GER10 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:24.25

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 1.56616E+01

Slope: 2.46967E-01

Quadrature: 8.24142E-11

SAMPLE IDENTIFICATION: H8MX61AC

CONFIGURATION ID: GER10:H8MX61AC_180760924
TITLE : BA1333
SAMPLE ID : H8MX61AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:24
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:33.38
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.5662E+01 keV
ENERGY SLOPE: 2.4697E-01 keV/C
ENERGY Q COEFF: 8.2414E-11 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.2265E-01 keV
FWHM SLOPE: 2.8650E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:54:49

Configuration : $DISK1:[GER10.SAMPLE]H8MX61AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA1333
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:24
Sample ID : H8MX61AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 18.13 End energy : 2038.82
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.90	335	88	1.15	264.14	252	25	1.86E-01	9.3	
2	0	276.38	62	7	1.58	1055.69	1048	15	3.43E-02	16.0	
3	0	302.95	93	9	0.94	1163.26	1154	18	5.17E-02	12.8	
4	0	356.23	299	57	1.51	1379.02	1363	25	1.66E-01	8.9	
5	0	383.76	65	3	1.69	1490.48	1481	16	3.60E-02	14.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:54:50

Configuration : $DISK1:[GER10.SAMPLE]H8MX61AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA1333
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:24
Sample ID : H8MX61AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	335	33.00	2.399E+00	1.410E+03	1.411E+03	10.78
	276.40	62	6.90	2.578E+00	1.157E+03	1.158E+03	16.85
	302.84	93	17.80	2.582E+00	6.746E+02	6.753E+02	13.92
	356.00	299	62.05*	2.584E+00	6.208E+02	6.214E+02	10.41
	383.85	65	8.70	2.584E+00	9.600E+02	9.611E+02	15.15

Flag: "*" = Keyline

Sample ID : H8MX61AC Acquisition date : 18-JUL-2006 09:24:24

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8MX61AC

Acquisition date : 18-JUL-2006 09:24:24

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.174E+03	16.85	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:54:52

Configuration : $DISK1:[GER10.SAMPLE]H8MX61AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA1333
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MX61AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:24
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.214E+02	6.469E+01	5.274E+01	1.055E+00	11.784

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	3.461E+01		7.125E+01	2.786E+02	5.589E+00	0.124
NA-22	-3.984E+00		4.073E+00	1.474E+01	3.114E-01	-0.270
K-40	3.283E+01		5.436E+01	2.518E+02	5.389E+00	0.130
SC-46	-3.945E+00		3.264E+00	1.213E+01	2.537E-01	-0.325
CR-51	1.293E+02		9.295E+01	3.807E+02	7.616E+00	0.340
MN-54	-1.160E+00		3.478E+00	1.441E+01	2.954E-01	-0.081
CO-57	6.568E+01		1.042E+02	3.933E+02	8.115E+00	0.167
CO-58	3.697E+00		4.051E+00	1.916E+01	3.920E-01	0.193
FE-59	7.572E+00		7.938E+00	3.682E+01	7.688E-01	0.206
CO-60	1.402E+00		4.937E+00	2.058E+01	4.366E-01	0.068
ZN-65	2.395E+00		7.266E+00	3.243E+01	6.779E-01	0.074
SE-75	-4.866E+00		1.318E+01	4.737E+01	9.502E-01	-0.103
SR-85	-4.372E+01		1.135E+01	3.062E+01	6.152E-01	-1.428
Y-88	-2.048E-02		3.628E+00	1.590E+01	3.483E-01	-0.001
NB-94	-1.200E+00		3.460E+00	1.426E+01	2.930E-01	-0.084
NB-95	-4.114E+00		5.596E+00	2.025E+01	4.131E-01	-0.203
TC-95M	-1.718E+01		1.534E+01	5.181E+01	1.047E+00	-0.332
ZR-95	8.358E-01		8.379E+00	3.456E+01	7.047E-01	0.024
ZRNB-95	-7.119E+00		1.070E+01	3.906E+01	7.970E-01	-0.182
MO-99	-2.898E+01		5.226E+01	1.853E+02	3.815E+00	-0.156
RH-101	6.515E+00		1.526E+01	5.617E+01	1.137E+00	0.116
RH-102M	1.604E+01		6.827E+00	3.066E+01	6.150E-01	0.523
RU-103	-4.338E-01		5.244E+00	2.115E+01	4.246E-01	-0.021
RU-106DA	4.011E+01		4.835E+01	2.128E+02	4.300E+00	0.189
AG-108M	-8.523E+00		5.928E+00	1.934E+01	3.872E-01	-0.441
AG-110M	1.265E+00		6.521E+00	2.715E+01	5.584E-01	0.047
SN-113DA	-2.079E+01		1.019E+01	3.091E+01	6.185E-01	-0.672

---- Non-Identified Nuclides ----

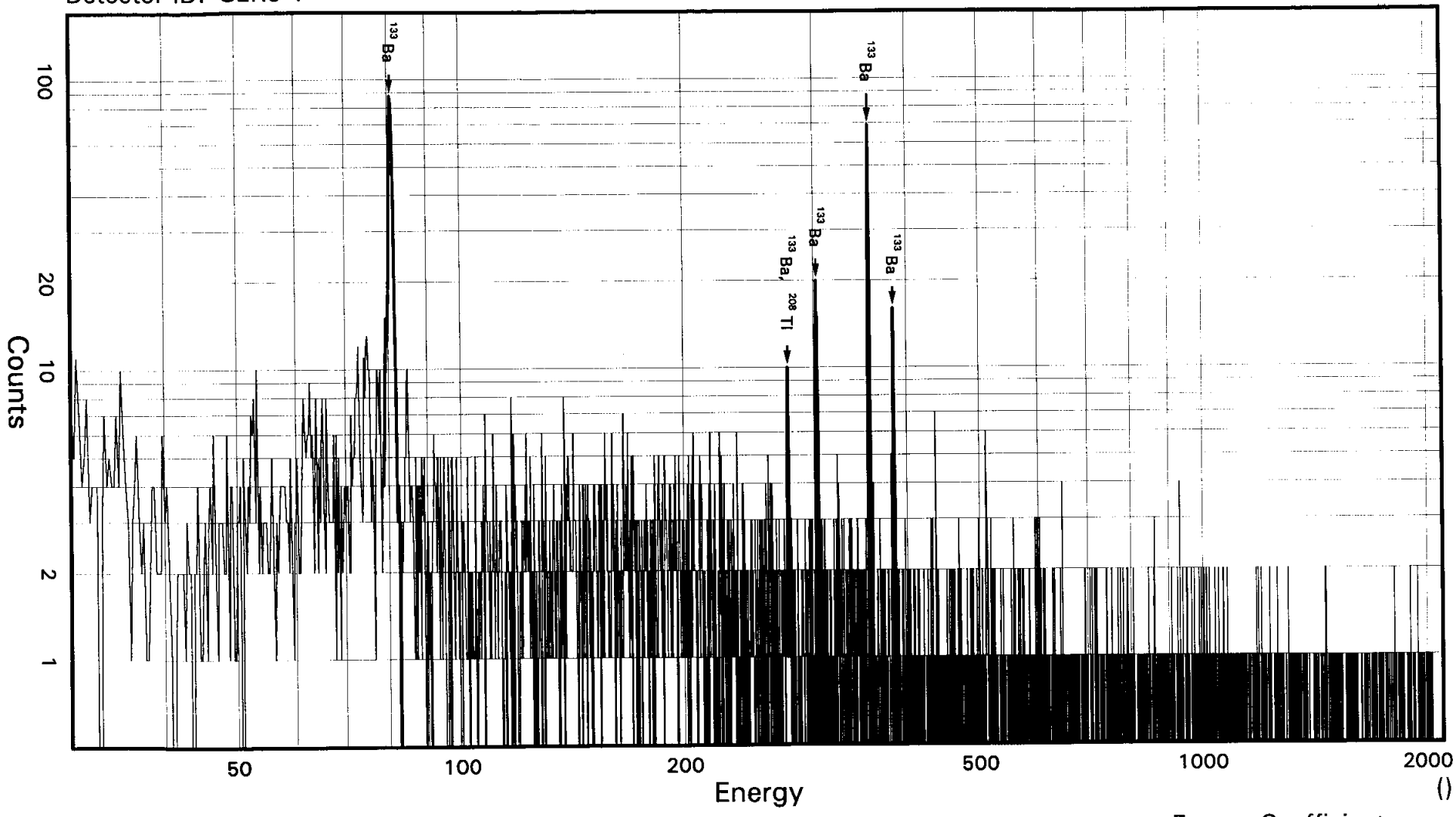
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	-1.433E+01		6.317E+00	1.828E+01	3.691E-01	-0.784
SB-125	2.966E+01		2.041E+01	8.850E+01	1.772E+00	0.335
SN-126DA	-2.742E+00		4.154E+00	1.564E+01	3.170E-01	-0.175
I-131	-5.238E+00		1.531E+01	5.609E+01	1.122E+00	-0.093
CS-134	-7.165E+00		4.534E+00	1.459E+01	2.984E-01	-0.491
CS-137DA	6.071E+00		6.172E+00	2.674E+01	5.419E-01	0.227
LA-138	8.263E+00		4.156E+00	2.480E+01	5.297E-01	0.333
CE-139	-6.813E+00		1.350E+01	4.773E+01	9.737E-01	-0.143
BA-140	1.204E+01		2.932E+01	1.212E+02	2.437E+00	0.099
BALA-140	-3.193E+00		1.307E+01	5.260E+01	1.136E+00	-0.061
LA-140	-1.222E+01		4.960E+01	2.030E+02	4.382E+00	-0.060
CE-141	-1.690E+01		2.266E+01	7.975E+01	1.639E+00	-0.212
CE-144	-5.141E+01		9.625E+01	3.433E+02	7.093E+00	-0.150
CEPR-144	-1.059E+02		1.923E+02	6.852E+02	1.416E+01	-0.154
PM-144	5.376E+00		5.314E+00	2.315E+01	4.679E-01	0.232
PM-146	-4.167E+00		8.665E+00	3.195E+01	6.403E-01	-0.130
EU-152	-2.436E+01		3.074E+01	1.081E+02	2.163E+00	-0.225
EU-154	-1.118E+01		1.143E+01	4.136E+01	8.740E-01	-0.270
EU-155	-5.913E+01		5.116E+01	1.698E+02	3.571E+00	-0.348
HF-181	2.793E+00		7.459E+00	2.996E+01	6.011E-01	0.093
BI-207	3.719E+00		6.778E+00	2.716E+01	5.472E-01	0.137
TL-208	1.099E+01		4.686E+00	2.461E+01	4.963E-01	0.447
BI-210M	-1.122E+01		1.618E+01	5.626E+01	1.129E+00	-0.199
BI-212	-7.481E+01		5.930E+01	1.984E+02	6.064E+00	-0.377
PB-212	2.329E+00		2.211E+01	8.041E+01	1.617E+00	0.029
BI-214	1.048E+01		1.243E+01	5.225E+01	1.055E+00	0.201
PB-214	-4.467E+01		3.122E+01	8.294E+01	1.659E+00	-0.539
RA-223	5.709E+01		6.087E+01	2.375E+02	4.763E+00	0.240
RA-224DA	2.343E+00		2.224E+01	8.089E+01	1.627E+00	0.029
RA-226DA	1.037E+01		1.242E+01	5.217E+01	1.054E+00	0.199
AC-227DA	-3.477E+01		8.232E+01	2.909E+02	5.852E+00	-0.120
AC-228	9.848E+00		1.510E+01	6.763E+01	1.394E+00	0.146
RA-228DA	9.867E+00		1.513E+01	6.776E+01	1.396E+00	0.146
TH-228DA	3.077E+01		1.312E+01	6.891E+01	1.390E+00	0.447
TH-232DA	4.518E-01		6.476E+01	2.424E+02	4.847E+00	0.002
TH-234DA	-4.198E+02		5.079E+02	1.909E+03	3.960E+01	-0.220
U-234DA	5.255E+01		4.338E+01	1.746E+02	3.496E+00	0.301
U-235HP	-1.686E+01		9.389E+01	3.422E+02	7.038E+00	-0.049
NP-237DA	-5.746E+01		2.147E+01	6.243E+01	1.249E+00	-0.920
U-238DA	-4.467E+01		3.122E+01	8.294E+01	1.659E+00	-0.539
U-238DHP	-4.507E+02		3.833E+02	1.285E+03	2.843E+01	-0.351
AM-241HP	-3.389E+01		3.275E+01	1.115E+02	2.486E+00	-0.304

STL Richland WA.

BA133

Sample ID: H8MX81AC
Detector ID: GER6 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:32.01
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.61436E-01
Slope: 2.49572E-01
Quadrature: -2.88852E-08

SAMPLE IDENTIFICATION: H8MX81AC

CONFIGURATION ID: GER6:H8MX81AC_180760924
TITLE : BA133
SAMPLE ID : H8MX81AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:32
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:01:43.75
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1614E+00 keV
ENERGY SLOPE: 2.4957E-01 keV/C
ENERGY Q COEFF: -.2889E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.5209E-01 keV
FWHM SLOPE: 5.2422E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:55:05

```
Configuration     : $DISK1:[GER6.SAMPLE]H8MX81AC_180760924.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:32
Sample ID         : H8MX81AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.24   0.0%
Start energy      :    19.80             End energy       :  2042.40
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.78	415	41	0.99	324.33	315	18	2.31E-01	6.1	
2	0	276.74	46	12	0.87	1109.67	1102	17	2.55E-02	23.1	
3	0	302.88	104	9	1.18	1214.41	1205	18	5.78E-02	11.9	
4	0	356.14	318	26	1.22	1427.88	1419	17	1.77E-01	6.7	
5	0	383.76	79	4	0.85	1538.60	1530	16	4.41E-02	12.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:05

Configuration	: $DISK1:[GER6.SAMPLE]H8MX81AC_180760924.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:24:32
Sample ID	: H8MX81AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.24 0.0%
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00		

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	415	33.00	2.166E+00	1.937E+03	1.939E+03	8.17
	276.40	46	6.90	2.334E+00	9.487E+02	9.497E+02	23.73
	302.84	104	17.80	2.337E+00	8.335E+02	8.344E+02	13.07
	356.00	318	62.05*	2.339E+00	7.312E+02	7.320E+02	8.58
	383.85	79	8.70	2.338E+00	1.300E+03	1.301E+03	13.65

Flag: "*" = Keyline

Sample ID : H8MX81AC
Acquisition date : 18-JUL-2006 09:24:32

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8MX81AC

Acquisition date : 18-JUL-2006 09:24:32

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	9.627E+02	23.73	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:07

Configuration : $DISK1:[GER6.SAMPLE]H8MX81AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8MX81AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:32
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.24 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.320E+02	6.281E+01	4.778E+01	9.557E-01	15.319

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	1.480E+01		4.913E+01	2.087E+02	4.187E+00	0.071
NA-22	1.431E+00		3.429E+00	1.631E+01	3.451E-01	0.088
K-40	-5.263E+01		6.507E+01	3.195E+02	6.850E+00	-0.165
SC-46	4.822E+00		4.668E+00	2.208E+01	4.623E-01	0.218
CR-51	-3.484E+01		1.010E+02	3.707E+02	7.418E+00	-0.094
MN-54	1.274E+00		5.791E+00	2.349E+01	4.818E-01	0.054
CO-57	-2.282E+02		1.062E+02	3.350E+02	6.918E+00	-0.681
CO-58	-1.235E+01		4.517E+00	6.726E+00	1.377E-01	-1.837
FE-59	1.104E+01		8.001E+00	4.005E+01	8.372E-01	0.276
CO-60	3.474E+00		3.761E+00	1.862E+01	3.958E-01	0.187
ZN-65	-1.146E+01		8.301E+00	2.773E+01	5.804E-01	-0.413
SE-75	2.909E+00		1.546E+01	5.787E+01	1.161E+00	0.050
SR-85	-2.341E+01		1.088E+01	3.331E+01	6.694E-01	-0.703
Y-88	-1.558E+00		2.791E+00	1.203E+01	2.643E-01	-0.129
NB-94	-3.152E+00		3.685E+00	1.360E+01	2.797E-01	-0.232
NB-95	7.772E+00		6.256E+00	2.811E+01	5.738E-01	0.276
TC-95M	5.227E+00		1.735E+01	6.523E+01	1.319E+00	0.080
ZR-95	8.573E+00		8.365E+00	3.949E+01	8.057E-01	0.217
ZRNB-95	1.474E+01		1.186E+01	5.331E+01	1.088E+00	0.276
MO-99	-8.929E+00		6.078E+01	2.188E+02	4.509E+00	-0.041
RH-101	9.743E+00		1.480E+01	5.678E+01	1.149E+00	0.172
RH-102M	-1.205E+01		5.681E+00	1.625E+01	3.259E-01	-0.742
RU-103	4.217E+00		7.292E+00	3.035E+01	6.094E-01	0.139
RU-106DA	-5.926E+01		3.647E+01	1.093E+02	2.210E+00	-0.542
AG-108M	-2.015E+01		8.889E+00	2.703E+01	5.414E-01	-0.745
AG-110M	3.744E+00		6.615E+00	2.895E+01	5.959E-01	0.129
SN-113DA	-1.031E+01		1.047E+01	3.609E+01	7.220E-01	-0.286

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	3.938E+00		7.060E+00	2.893E+01	5.842E-01	0.136
SB-125	-2.175E+00		2.093E+01	8.190E+01	1.640E+00	-0.027
SN-126DA	1.256E-02		4.167E+00	1.753E+01	3.555E-01	0.001
I-131	-9.644E+00		1.530E+01	5.481E+01	1.096E+00	-0.176
CS-134	-3.436E+00		4.859E+00	1.846E+01	3.777E-01	-0.186
CS-137DA	1.586E+00		4.536E+00	2.038E+01	4.131E-01	0.078
LA-138	-2.313E+00		5.127E+00	2.122E+01	4.541E-01	-0.109
CE-139	1.179E+01		1.453E+01	5.492E+01	1.121E+00	0.215
BA-140	-1.748E+01		2.577E+01	9.538E+01	1.919E+00	-0.183
BALA-140	-8.288E+00		8.858E+00	3.347E+01	7.239E-01	-0.248
LA-140	-5.418E+01		4.093E+01	1.364E+02	2.950E+00	-0.397
CE-141	5.811E-01		2.455E+01	9.041E+01	1.859E+00	0.006
CE-144	3.352E+01		9.163E+01	3.497E+02	7.232E+00	0.096
CEPR-144	4.080E+01		1.852E+02	6.995E+02	1.447E+01	0.058
PM-144	2.250E-02		3.592E+00	1.581E+01	3.196E-01	0.001
PM-146	-4.732E+00		9.142E+00	3.423E+01	6.860E-01	-0.138
EU-152	4.253E+01		2.945E+01	1.232E+02	2.465E+00	0.345
EU-154	4.016E+00		9.623E+00	4.576E+01	9.686E-01	0.088
EU-155	-2.094E+01		4.921E+01	1.732E+02	3.648E+00	-0.121
HF-181	-3.785E+00		6.615E+00	2.499E+01	5.013E-01	-0.151
BI-207	-1.962E+00		6.167E+00	2.367E+01	4.771E-01	-0.083
TL-208	3.137E+00		7.145E+00	3.094E+01	6.241E-01	0.101
BI-210M	-1.914E+01		1.656E+01	5.566E+01	1.116E+00	-0.344
BI-212	3.101E+00		6.128E+01	2.647E+02	8.089E+00	0.012
PB-212	-2.627E+01		1.993E+01	7.055E+01	1.419E+00	-0.372
BI-214	-5.496E+00		1.395E+01	5.636E+01	1.139E+00	-0.098
PB-214	-3.224E+01		3.000E+01	8.285E+01	1.657E+00	-0.389
RA-223	-6.481E+01		5.966E+01	2.018E+02	4.047E+00	-0.321
RA-224DA	-2.642E+01		2.005E+01	7.097E+01	1.427E+00	-0.372
RA-226DA	-5.496E+00		1.395E+01	5.636E+01	1.139E+00	-0.098
AC-227DA	-6.363E+01		8.060E+01	2.825E+02	5.683E+00	-0.225
AC-228	1.362E+01		1.848E+01	8.151E+01	1.681E+00	0.167
RA-228DA	1.365E+01		1.851E+01	8.167E+01	1.684E+00	0.167
TH-228DA	8.783E+00		2.000E+01	8.663E+01	1.747E+00	0.101
TH-232DA	-3.493E+01		7.113E+01	2.561E+02	5.123E+00	-0.136
TH-234DA	7.008E+02		6.085E+02	3.004E+03	6.235E+01	0.233
U-234DA	3.629E+01		3.982E+01	1.631E+02	3.266E+00	0.223
U-235HP	-3.258E+01		1.028E+02	3.699E+02	7.614E+00	-0.088
NP-237DA	-2.024E+01		2.196E+01	7.747E+01	1.550E+00	-0.261
U-238DA	-3.224E+01		3.000E+01	8.285E+01	1.657E+00	-0.389
U-238DHP	9.313E+01		4.024E+02	1.483E+03	3.290E+01	0.063
AM-241HP	-7.021E+01		3.573E+01	1.173E+02	2.621E+00	-0.599

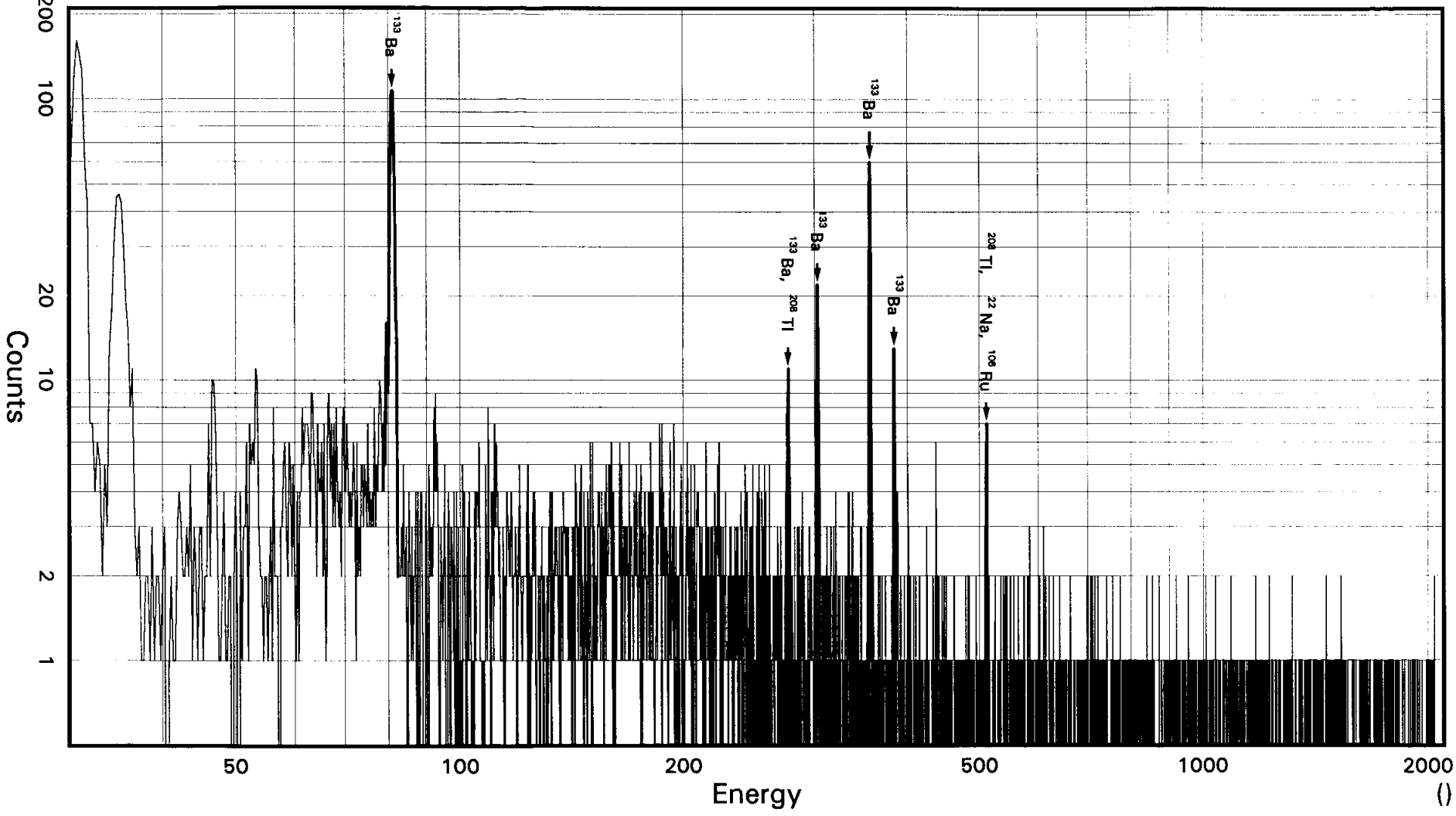
STL Richland WA.

BA133

Sample ID: H8M0K1AC

Detector ID: GER8 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:37.08

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 2.50992E-01

Slope: 2.49834E-01

Quadrature: 1.28335E-08

SAMPLE IDENTIFICATION: H8M0K1AC

CONFIGURATION ID: GER8:H8M0K1AC_180760924
TITLE : BA133
SAMPLE ID : H8M0K1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:37
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:17.61
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 2.5099E-01 keV
ENERGY SLOPE: 2.4983E-01 keV/C
ENERGY Q COEFF: 1.2834E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.9718E-01 keV
FWHM SLOPE: 2.4790E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:55:19

Configuration : $DISK1:[GER8.SAMPLE]H8M0K1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:37
Sample ID : H8M0K1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 20.24 End energy : 2047.75
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.81*	767	133	1.09	122.32	112	21	4.26E-01	5.2	
2	0	35.10	253	45	1.26	139.47	132	17	1.41E-01	8.8	
3	0	46.82*	20	25	1.13	186.38	177	21	1.12E-02	70.6	
4	0	81.05	507	59	1.09	323.40	314	16	2.82E-01	5.5	
5	0	276.41	54	3	1.11	1105.29	1098	14	2.98E-02	15.5	
6	0	302.91	111	8	1.21	1211.37	1203	16	6.17E-02	11.1	
7	0	356.25	308	15	1.15	1424.83	1415	21	1.71E-01	6.5	
8	0	383.90	59	0	1.01	1535.51	1529	13	3.28E-02	13.0	
9	0	437.73	15	4	0.35	1750.94	1740	15	8.08E-03	39.5	
10	0	511.22*	3	0	1.17	2045.02	2034	23	1.45E-03	261.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:20

Configuration : $DISK1:[GER8.SAMPLE]H8M0K1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:37
Sample ID : H8M0K1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	507	33.00	2.202E+00	2.325E+03	2.327E+03	7.77
	276.40	54	6.90	2.371E+00	1.093E+03	1.095E+03	16.42
	302.84	111	17.80	2.374E+00	8.757E+02	8.767E+02	12.31
	356.00	308	62.05*	2.376E+00	6.956E+02	6.964E+02	8.48
	383.85	59	8.70	2.375E+00	9.517E+02	9.527E+02	14.09

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8M0K1AC

Acquisition date : 18-JUL-2006 09:24:37

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.81	767	133	1.09	122.32	112	21	4.26E-01	5.2	1.93E+00	
0	35.10	253	45	1.26	139.47	132	17	1.41E-01	8.8	1.97E+00	
0	46.82	20	25	1.13	186.38	177	21	1.12E-02	70.6	2.06E+00	
0	437.73	15	4	0.35	1750.94	1740	15	8.08E-03	39.5	2.37E+00	
0	511.22	3	0	1.17	2045.02	2034	23	1.45E-03	****	2.37E+00	T

Flags: "T" = Tentatively associated

Sample ID : H8M0K1AC
Acquisition date : 18-JUL-2006 09:24:37

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	2.050E+00	261.82	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	1.800E+01	261.82	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.110E+03	16.42	Abun.
			510.84	21.60	1.698E+01	261.82	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:22

Configuration : $DISK1:[GER8.SAMPLE]H8M0K1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8M0K1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:37
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	6.964E+02	5.903E+01	4.738E+01	9.475E-01	14.698

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.003E+01		5.625E+01	2.133E+02	4.279E+00	-0.141
NA-22	0.000E+00		0.000E+00	4.032E+00	8.532E-02	0.000
K-40	4.323E+01		4.945E+01	2.453E+02	5.257E+00	0.176
SC-46	4.626E+00		2.683E+00	1.659E+01	3.472E-01	0.279
CR-51	1.650E+02		9.132E+01	3.892E+02	7.787E+00	0.424
MN-54	1.369E-01		3.516E+00	1.568E+01	3.217E-01	0.009
CO-57	-3.028E+01		1.106E+02	3.931E+02	8.117E+00	-0.077
CO-58	-2.114E+00		3.806E+00	1.532E+01	3.138E-01	-0.138
FE-59	-6.025E+00		7.130E+00	2.644E+01	5.526E-01	-0.228
CO-60	-1.036E+00		2.676E+00	1.187E+01	2.523E-01	-0.087
ZN-65	-9.140E+00		5.300E+00	7.950E+00	1.664E-01	-1.150
SE-75	-4.520E+00		1.551E+01	5.673E+01	1.138E+00	-0.080
SR-85	2.033E+01		5.652E+00	2.987E+01	6.002E-01	0.681
Y-88	0.000E+00		0.000E+00	4.353E+00	9.558E-02	0.000
NB-94	2.885E+00		2.046E+00	1.339E+01	2.752E-01	0.216
NB-95	-1.373E+00		3.500E+00	1.496E+01	3.053E-01	-0.092
TC-95M	3.547E+01		1.746E+01	7.106E+01	1.437E+00	0.499
ZR-95	6.472E+00		9.155E+00	4.031E+01	8.222E-01	0.161
ZRNB-95	-2.604E+00		6.637E+00	2.837E+01	5.791E-01	-0.092
MO-99	-9.848E+01		5.868E+01	1.892E+02	3.899E+00	-0.521
RH-101	1.266E+01		1.451E+01	5.498E+01	1.113E+00	0.230
RH-102M	-3.973E+00		5.231E+00	1.948E+01	3.907E-01	-0.204
RU-103	1.637E+00		5.676E+00	2.436E+01	4.890E-01	0.067
RU-106DA	7.301E+01		3.898E+01	2.062E+02	4.169E+00	0.354
AG-108M	1.037E+01		6.566E+00	2.767E+01	5.542E-01	0.375
AG-110M	1.131E-01		4.906E+00	2.175E+01	4.476E-01	0.005
SN-113DA	-1.745E+01		1.283E+01	4.215E+01	8.433E-01	-0.414

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.094E+01		6.438E+00	2.923E+01	5.902E-01	0.374
SB-125	-3.137E+01		1.747E+01	5.173E+01	1.036E+00	-0.606
SN-126DA	-5.873E+00		3.574E+00	1.046E+01	2.121E-01	-0.561
I-131	5.093E+00		1.235E+01	5.003E+01	1.001E+00	0.102
CS-134	5.498E+00		5.045E+00	2.402E+01	4.912E-01	0.229
CS-137DA	-1.598E-01		4.784E+00	2.006E+01	4.066E-01	-0.008
LA-138	-2.266E+00		5.041E+00	2.088E+01	4.467E-01	-0.109
CE-139	1.073E+01		1.558E+01	5.772E+01	1.178E+00	0.186
BA-140	-3.147E+01		2.644E+01	9.153E+01	1.841E+00	-0.344
BALA-140	-4.507E+00		4.514E+00	1.182E+01	2.557E-01	-0.381
LA-140	-1.880E+01		1.883E+01	4.933E+01	1.067E+00	-0.381
CE-141	5.486E+00		2.790E+01	1.014E+02	2.085E+00	0.054
CE-144	1.773E+02		1.005E+02	4.026E+02	8.324E+00	0.440
CEPR-144	3.535E+02		2.010E+02	8.047E+02	1.664E+01	0.439
PM-144	-8.331E+00		4.229E+00	1.161E+01	2.347E-01	-0.717
PM-146	-6.592E+00		8.528E+00	3.143E+01	6.299E-01	-0.210
EU-152	4.218E+00		2.564E+01	9.968E+01	1.994E+00	0.042
EU-154	0.000E+00		0.000E+00	1.132E+01	2.395E-01	0.000
EU-155	5.151E+01		5.279E+01	2.042E+02	4.300E+00	0.252
HF-181	5.453E-01		7.780E+00	3.110E+01	6.239E-01	0.018
BI-207	6.580E+00		5.512E+00	2.467E+01	4.972E-01	0.267
TL-208	3.882E+00		5.393E+00	2.416E+01	4.873E-01	0.161
BI-210M	1.550E+01		1.700E+01	6.777E+01	1.359E+00	0.229
BI-212	-4.727E+01		5.482E+01	2.014E+02	6.155E+00	-0.235
PB-212	-4.026E+01		2.374E+01	8.148E+01	1.639E+00	-0.494
BI-214	-1.232E-01		1.149E+01	4.595E+01	9.282E-01	-0.003
PB-214	2.310E+01		2.094E+01	8.076E+01	1.615E+00	0.286
RA-223	3.610E+01		6.080E+01	2.386E+02	4.784E+00	0.151
RA-224DA	-4.050E+01		2.387E+01	8.196E+01	1.648E+00	-0.494
RA-226DA	-3.226E+00		1.190E+01	4.593E+01	9.278E-01	-0.070
AC-227DA	2.537E+01		8.377E+01	3.179E+02	6.394E+00	0.080
AC-228	2.295E+01		1.680E+01	7.999E+01	1.650E+00	0.287
RA-228DA	2.300E+01		1.683E+01	8.015E+01	1.653E+00	0.287
TH-228DA	1.087E+01		1.510E+01	6.764E+01	1.364E+00	0.161
TH-232DA	5.822E+01		6.176E+01	2.496E+02	4.993E+00	0.233
TH-234DA	-4.544E+02		4.519E+02	1.647E+03	3.419E+01	-0.276
U-234DA	5.847E+01		3.869E+01	1.638E+02	3.280E+00	0.357
U-235HP	1.442E+02		1.088E+02	4.213E+02	8.670E+00	0.342
NP-237DA	1.042E+01		2.092E+01	8.239E+01	1.649E+00	0.126
U-238DA	2.310E+01		2.094E+01	8.076E+01	1.615E+00	0.286
U-238DHP	3.195E+02		4.678E+02	1.775E+03	3.936E+01	0.180
AM-241HP	-5.594E+01		4.397E+01	1.495E+02	3.341E+00	-0.374

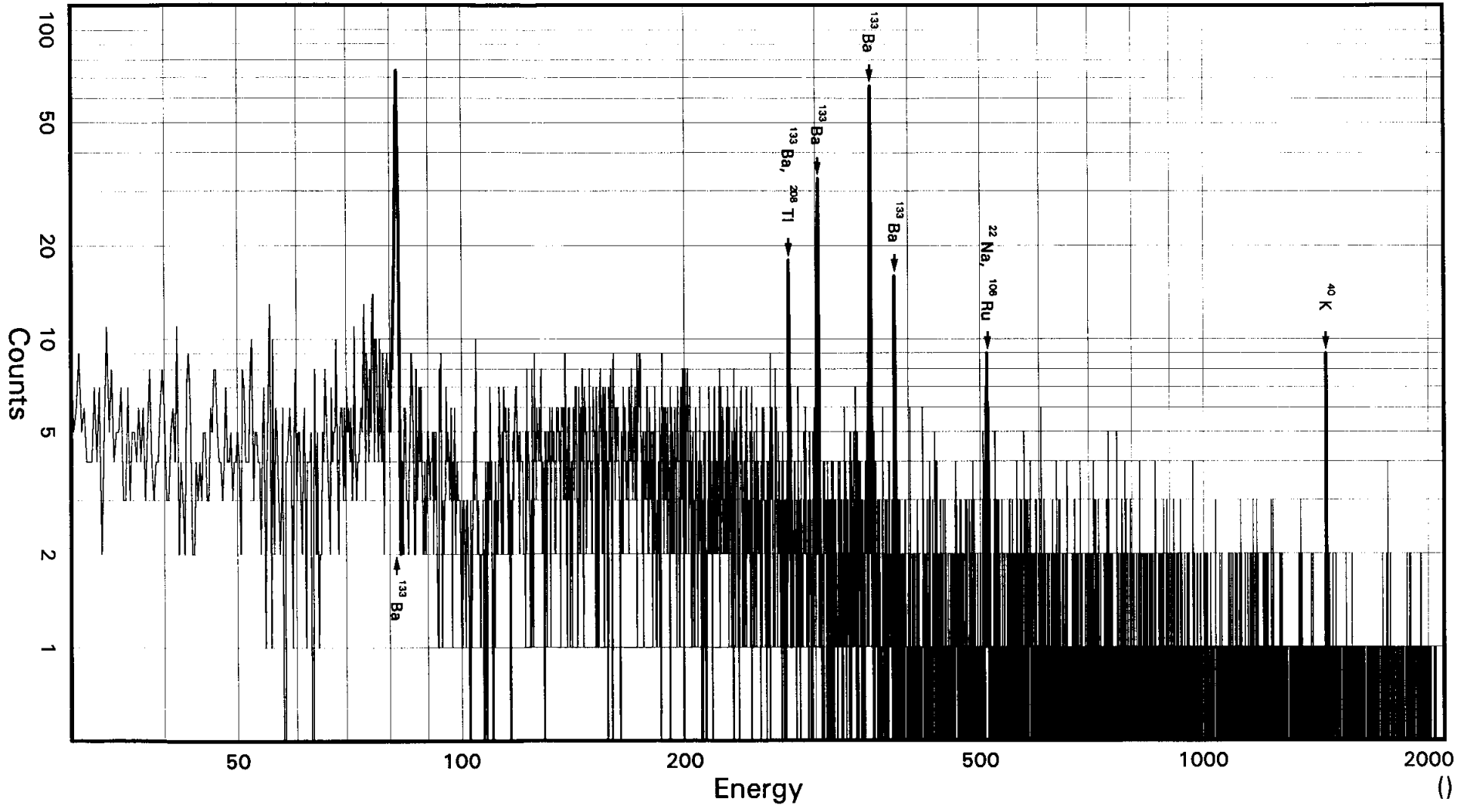
STL Richland WA.

BA133

Sample ID: H8M0Q1AC

Detector ID: GER13 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:52.70

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -6.09008E-01

Slope: 2.50740E-01

Quadrature: -1.00977E-07

SAMPLE IDENTIFICATION: H8M0Q1AC

CONFIGURATION ID: GER13:H8M0Q1AC_180760924
TITLE : BA133
SAMPLE ID : H8M0Q1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:52
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:20:02.06
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6090E+00 keV
ENERGY SLOPE: 2.5074E-01 keV/C
ENERGY Q COEFF: -.1010E-06 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3392E-01 keV
FWHM SLOPE: 4.4080E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:55:34

```
Configuration     : $DISK1:[GER13.SAMPLE]H8M0Q1AC_180760924.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:52
Sample ID         : H8M0Q1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.38   0.0%
Start energy      :    19.45             End energy       :  2046.68
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.80	223	58	0.68	328.71	322	13	1.24E-01	9.7	
2	0	276.25	65	30	1.08	1104.67	1096	17	3.62E-02	22.8	
3	0	302.63	133	30	0.87	1209.95	1202	15	7.41E-02	12.5	
4	0	355.77	405	25	1.38	1422.14	1410	26	2.25E-01	6.0	
5	0	383.91	59	25	1.21	1534.47	1523	20	3.29E-02	24.4	
6	1	512.48	29	17	1.43	2048.00	2032	24	1.64E-02	44.7	3.82E+00
7	0	1460.48*	18	0	2.58	5840.84	5831	20	1.02E-02	48.9	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:35

Configuration	: $DISK1:[GER13.SAMPLE]H8M0Q1AC_180760924.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:24:52
Sample ID	: H8M0Q1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.38 0.0%
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00		

Nuclide Line Activity Report

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
K-40	1460.81	18	10.67*	2.719E+00	2.119E+02	2.119E+02	49.24

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	223	33.00	2.704E+00	8.332E+02	8.340E+02	11.15
	276.40	65	6.90	2.897E+00	1.088E+03	1.089E+03	23.44
	302.84	133	17.80	2.900E+00	8.607E+02	8.616E+02	13.57
	356.00	405	62.05*	2.903E+00	7.495E+02	7.503E+02	8.09
	383.85	59	8.70	2.902E+00	7.826E+02	7.835E+02	24.97

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8M0Q1AC

Acquisition date : 18-JUL-2006 09:24:52

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	512.48	29	17	1.43	2048.00	2032	24	1.64E-02	44.7	2.89E+00	T

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8M0Q1AC

Acquisition date : 18-JUL-2006 09:24:52

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.01	511.00	179.68	1.898E+01	45.04	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.02	511.85	20.60	1.667E+02	45.04	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.104E+03	23.44	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:36

Configuration : $DISK1:[GER13.SAMPLE]H8M0Q1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8M0Q1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:52
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.38 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
K-40	2.119E+02	1.043E+02	1.603E+02	3.422E+00	1.322
BA-133	7.503E+02	6.073E+01	5.598E+01	1.120E+00	13.403

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.382E+01		6.360E+01	2.244E+02	4.501E+00	-0.195
NA-22	1.211E+00		4.391E+00	1.826E+01	3.853E-01	0.066
SC-46	9.195E-02		6.774E+00	2.699E+01	5.637E-01	0.003
CR-51	-3.979E+01		9.420E+01	3.330E+02	6.662E+00	-0.119
MN-54	2.257E+00		5.394E+00	2.167E+01	4.439E-01	0.104
CO-57	7.246E+01		1.125E+02	4.168E+02	8.592E+00	0.174
CO-58	8.177E-01		4.827E+00	1.956E+01	3.999E-01	0.042
FE-59	-8.296E+00		9.687E+00	3.430E+01	7.153E-01	-0.242
CO-60	-2.549E+00		3.489E+00	1.311E+01	2.776E-01	-0.195
ZN-65	-1.189E+01		1.193E+01	4.102E+01	8.562E-01	-0.290
SE-75	-2.656E+01		1.937E+01	6.455E+01	1.295E+00	-0.412
SR-85	2.316E+01		9.715E+00	3.697E+01	7.427E-01	0.626
Y-88	3.954E+00		3.469E+00	1.718E+01	3.754E-01	0.230
NB-94	8.912E-01		4.957E+00	1.968E+01	4.042E-01	0.045
NB-95	9.864E+00		5.813E+00	2.601E+01	5.304E-01	0.379
TC-95M	-1.126E+01		1.844E+01	6.276E+01	1.268E+00	-0.179
ZR-95	-5.514E+00		9.332E+00	3.463E+01	7.057E-01	-0.159
ZRNB-95	1.920E+01		1.108E+01	4.964E+01	1.012E+00	0.387
MO-99	-7.141E+01		5.650E+01	1.912E+02	3.933E+00	-0.374
RH-101	-5.847E+00		1.629E+01	5.621E+01	1.137E+00	-0.104
RH-102M	-9.943E+00		7.161E+00	2.344E+01	4.701E-01	-0.424
RU-103	-3.254E+00		7.342E+00	2.655E+01	5.329E-01	-0.123
RU-106DA	-1.046E+02		6.392E+01	2.048E+02	4.139E+00	-0.511
AG-108M	-3.484E+00		8.491E+00	3.041E+01	6.089E-01	-0.115
AG-110M	1.271E+01		7.889E+00	3.422E+01	7.032E-01	0.371
SN-113DA	-2.294E+01		1.161E+01	3.671E+01	7.344E-01	-0.625

---- Non-Identified Nuclides ----

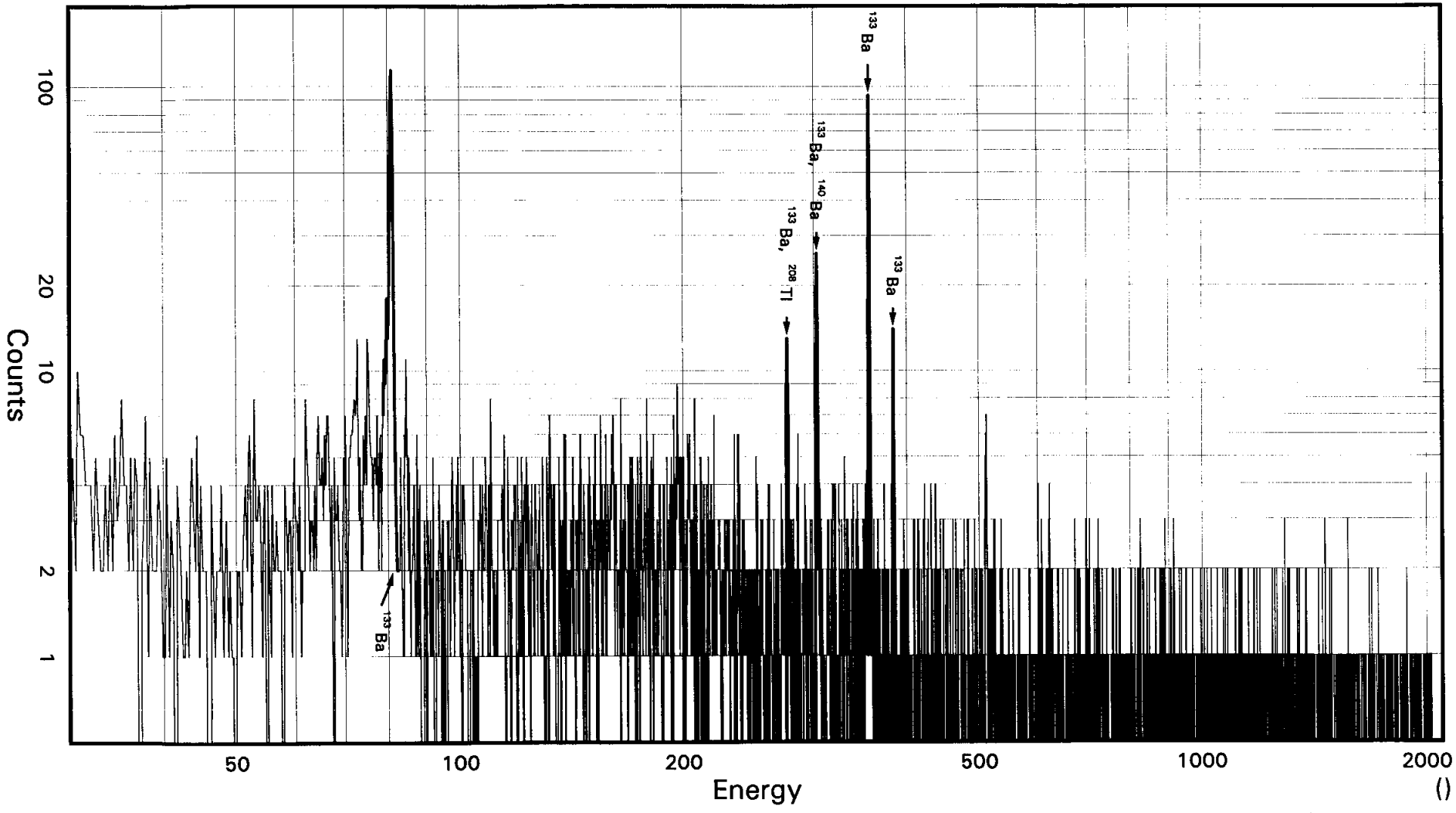
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.132E+01		7.759E+00	3.171E+01	6.400E-01	0.357
SB-125	3.018E+00		2.331E+01	8.800E+01	1.762E+00	0.034
SN-126DA	-3.426E+00		5.802E+00	2.080E+01	4.213E-01	-0.165
I-131	-4.161E+00		1.438E+01	5.310E+01	1.062E+00	-0.078
CS-134	-2.815E+00		6.189E+00	2.300E+01	4.698E-01	-0.122
CS-137DA	-2.265E+00		6.681E+00	2.463E+01	4.989E-01	-0.092
LA-138	3.786E+00		4.453E+00	2.203E+01	4.695E-01	0.172
CE-139	6.858E+00		1.474E+01	5.365E+01	1.094E+00	0.128
BA-140	-4.240E+00		2.864E+01	1.106E+02	2.224E+00	-0.038
BALA-140	-3.710E+00		9.491E+00	3.835E+01	8.259E-01	-0.097
LA-140	-1.548E+01		3.960E+01	1.600E+02	3.446E+00	-0.097
CE-141	-2.188E+00		2.779E+01	9.937E+01	2.040E+00	-0.022
CE-144	-1.956E+01		1.020E+02	3.673E+02	7.582E+00	-0.053
CEPR-144	-3.824E+01		2.041E+02	7.350E+02	1.517E+01	-0.052
PM-144	1.051E+01		5.734E+00	2.521E+01	5.093E-01	0.417
PM-146	6.069E+00		8.342E+00	3.409E+01	6.832E-01	0.178
EU-152	1.923E+01		3.536E+01	1.300E+02	2.600E+00	0.148
EU-154	3.400E+00		1.232E+01	5.126E+01	1.081E+00	0.066
EU-155	4.088E+01		4.588E+01	1.729E+02	3.631E+00	0.236
HF-181	4.710E+00		7.918E+00	3.136E+01	6.292E-01	0.150
BI-207	-4.722E+00		6.839E+00	2.437E+01	4.909E-01	-0.194
TL-208	6.598E+00		9.364E+00	3.858E+01	7.778E-01	0.171
BI-210M	3.228E+01		2.049E+01	7.927E+01	1.590E+00	0.407
BI-212	1.232E+02		7.651E+01	3.428E+02	1.047E+01	0.359
PB-212	4.870E+00		2.364E+01	8.980E+01	1.805E+00	0.054
BI-214	-1.457E+01		1.531E+01	6.189E+01	1.250E+00	-0.235
PB-214	3.788E+01		2.896E+01	1.059E+02	2.117E+00	0.358
RA-223	2.127E-01		6.928E+01	2.514E+02	5.040E+00	0.001
RA-224DA	4.899E+00		2.378E+01	9.033E+01	1.816E+00	0.054
RA-226DA	-1.457E+01		1.531E+01	6.189E+01	1.250E+00	-0.235
AC-227DA	-1.441E+02		9.366E+01	3.124E+02	6.283E+00	-0.461
AC-228	-9.337E+00		2.073E+01	8.578E+01	1.766E+00	-0.109
RA-228DA	-9.355E+00		2.077E+01	8.595E+01	1.769E+00	-0.109
TH-228DA	1.847E+01		2.622E+01	1.080E+02	2.178E+00	0.171
TH-232DA	2.334E+01		7.781E+01	2.816E+02	5.632E+00	0.083
TH-234DA	1.891E+02		6.581E+02	2.745E+03	5.687E+01	0.069
U-234DA	-3.330E+01		4.569E+01	1.581E+02	3.167E+00	-0.211
U-235HP	1.091E+01		1.116E+02	4.030E+02	8.280E+00	0.027
NP-237DA	-1.606E+01		2.481E+01	8.586E+01	1.718E+00	-0.187
U-238DA	3.788E+01		2.896E+01	1.059E+02	2.117E+00	0.358
U-238DHP	-1.973E+02		2.801E+02	9.871E+02	2.177E+01	-0.200
AM-241HP	4.421E+01		3.010E+01	1.179E+02	2.620E+00	0.375

STL Richland WA.

BA133

Sample ID: H8M0V1AC
Detector ID: GER12 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:24:58.93
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.25404E+01
Slope: 2.46409E-01
Quadrature: 2.23908E-09

SAMPLE IDENTIFICATION: H8M0V1AC

CONFIGURATION ID: GER12:H8M0V1AC_180760924
TITLE : BA133
SAMPLE ID : H8M0V1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:24:58
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:03:01.16
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.2540E+01 keV
ENERGY SLOPE: 2.4641E-01 keV/C
ENERGY Q COEFF: 2.2391E-09 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.6831E-01 keV
FWHM SLOPE: 3.7873E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 2.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 09:55:49

```
Configuration     : $DISK1:[GER12.SAMPLE]H8M0V1AC_180760924.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:58
Sample ID         : H8M0V1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.35   0.0%
Start energy      :    12.79             End energy       :  2031.28
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.86	367	67	0.70	277.25	269	16	2.04E-01	7.2	
2	0	276.41	57	24	1.26	1070.84	1063	16	3.15E-02	23.5	
3	0	302.94	139	17	1.09	1178.51	1170	21	7.75E-02	11.1	
4	0	356.07	427	36	0.99	1394.12	1384	21	2.37E-01	6.0	
5	0	383.71	65	5	1.05	1506.28	1500	16	3.62E-02	14.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:49

Configuration : $DISK1:[GER12.SAMPLE]H8M0V1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:24:58
Sample ID : H8M0V1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.35 0.0%
Energy tolerance : 2.00 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	367	33.00	2.899E+00	1.278E+03	1.279E+03	9.06
	276.40	57	6.90	3.105E+00	8.823E+02	8.832E+02	24.07
	302.84	139	17.80	3.109E+00	8.398E+02	8.407E+02	12.32
	356.00	427	62.05*	3.111E+00	7.364E+02	7.372E+02	8.07
	383.85	65	8.70	3.111E+00	8.034E+02	8.043E+02	15.20

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8M0V1AC

Acquisition date : 18-JUL-2006 09:24:58

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
BA-140	12.79D	0.46	162.64	6.70	--- Not Found ---		Abun.
			304.84	4.50	4.574E+03	12.32	
			423.70	3.20	--- Not Found ---		
			537.32*	25.00	--- Not Found ---		
		% Abundances Found =		11.42			
TL-208	1.41E+10Y	0.00	277.35	6.80	8.952E+02	24.07	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 09:55:52

Configuration : $DISK1:[GER12.SAMPLE]H8M0V1AC_180760924.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8M0V1AC
Sample type :
Elapsed live time: 0 00:30:00.00
Peak Width (FWHM): 3.00
Energy tolerance : 2.00
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:24:58
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.35 0.0%
Confidence level : 5.00 %
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy
WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.372E+02	5.946E+01	3.776E+01	7.553E-01	19.522

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	4.274E+01		3.915E+01	1.765E+02	3.539E+00	0.242
NA-22	-2.096E+00		2.432E+00	9.068E+00	1.911E-01	-0.231
K-40	-3.223E+01		4.903E+01	2.281E+02	4.864E+00	-0.141
SC-46	4.415E+00		4.655E+00	2.020E+01	4.215E-01	0.219
CR-51	1.437E+02		6.574E+01	2.889E+02	5.781E+00	0.497
MN-54	2.705E+00		3.571E+00	1.607E+01	3.290E-01	0.168
CO-57	-6.782E+01		7.066E+01	2.442E+02	5.030E+00	-0.278
CO-58	4.719E+00		3.293E+00	1.645E+01	3.362E-01	0.287
FE-59	-3.958E-01		6.000E+00	2.540E+01	5.293E-01	-0.016
CO-60	1.171E+00		1.948E+00	1.054E+01	2.229E-01	0.111
ZN-65	-6.613E+00		8.051E+00	2.933E+01	6.117E-01	-0.225
SE-75	-9.293E+00		8.525E+00	2.945E+01	5.907E-01	-0.316
SR-85	-3.684E+01		9.327E+00	2.647E+01	5.317E-01	-1.392
Y-88	-1.234E+00		1.236E+00	3.302E+00	7.201E-02	-0.374
NB-94	-2.278E-02		3.117E+00	1.320E+01	2.708E-01	-0.002
NB-95	2.697E+00		4.510E+00	1.943E+01	3.960E-01	0.139
TC-95M	3.177E+01		1.292E+01	5.392E+01	1.089E+00	0.589
ZR-95	5.143E+00		7.769E+00	3.364E+01	6.852E-01	0.153
ZRNB-95	5.398E+00		8.593E+00	3.708E+01	7.558E-01	0.146
MO-99	-9.264E+01		3.766E+01	1.178E+02	2.423E+00	-0.786
RH-101	1.205E+01		1.401E+01	5.169E+01	1.045E+00	0.233
RH-102M	-3.912E+00		4.782E+00	1.697E+01	3.403E-01	-0.231
RU-103	-5.855E-01		5.510E+00	2.125E+01	4.266E-01	-0.028
RU-106DA	1.794E+00		5.009E+01	1.956E+02	3.951E+00	0.009
AG-108M	-6.744E+00		6.172E+00	2.116E+01	4.238E-01	-0.319
AG-110M	4.554E+00		5.136E+00	2.312E+01	4.749E-01	0.197
SN-113DA	7.130E+00		6.784E+00	2.978E+01	5.959E-01	0.239

---- Non-Identified Nuclides ----

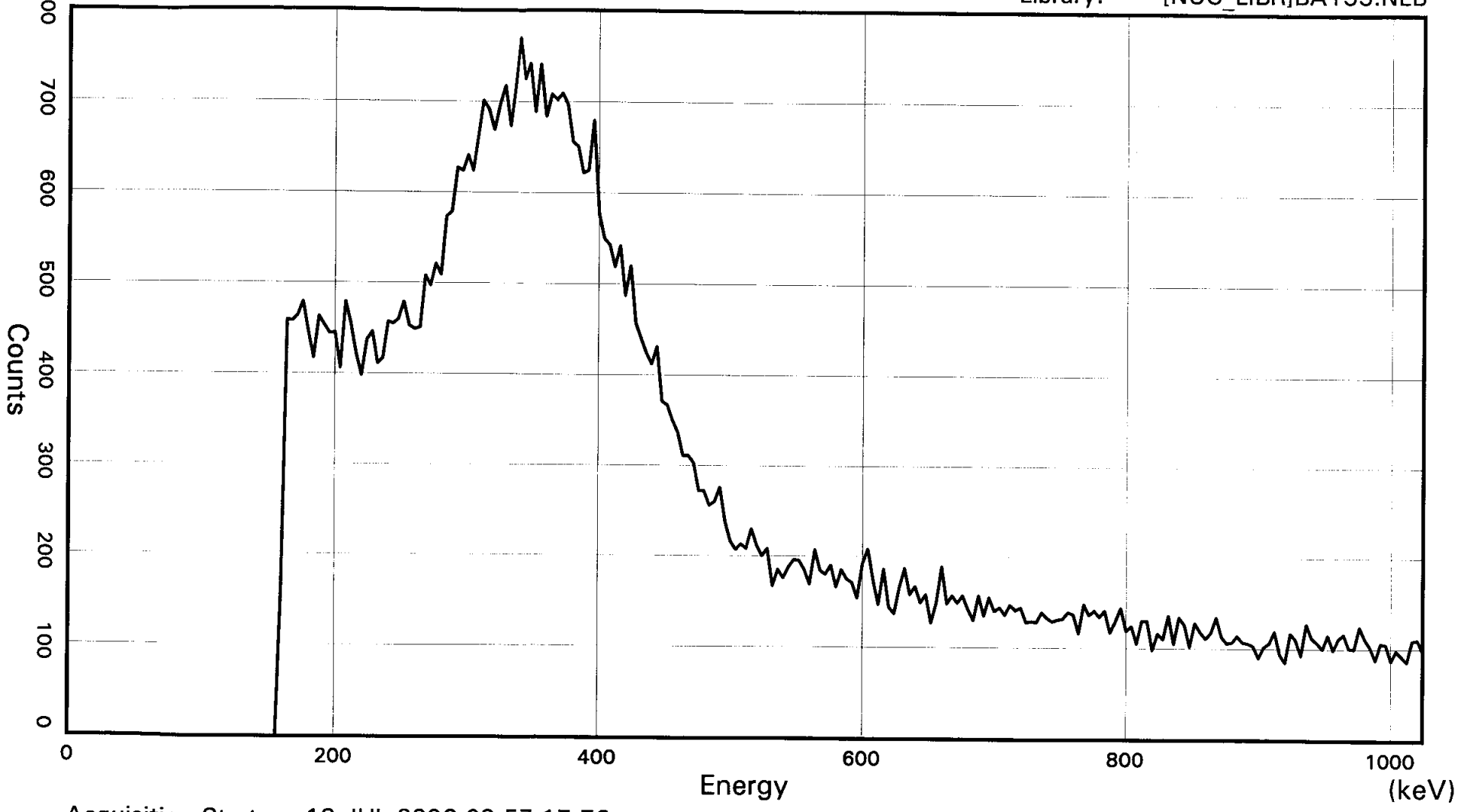
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	7.590E+00		5.324E+00	2.327E+01	4.695E-01	0.326
SB-125	-1.844E+01		1.765E+01	6.114E+01	1.224E+00	-0.302
SN-126DA	4.290E+00		3.098E+00	1.530E+01	3.099E-01	0.280
I-131	8.537E+00		1.199E+01	4.823E+01	9.646E-01	0.177
CS-134	-2.417E+00		3.101E+00	1.197E+01	2.445E-01	-0.202
CS-137DA	2.265E+00		4.437E+00	1.900E+01	3.848E-01	0.119
LA-138	1.366E-02		4.832E+00	2.052E+01	4.370E-01	0.001
CE-139	1.082E+01		9.732E+00	3.793E+01	7.731E-01	0.285
BA-140	-5.999E+00		2.608E+01	1.007E+02	2.025E+00	-0.060
BALA-140	1.477E+00		7.199E+00	3.353E+01	7.211E-01	0.044
LA-140	1.272E+01		3.152E+01	1.491E+02	3.206E+00	0.085
CE-141	1.917E+01		1.856E+01	7.207E+01	1.479E+00	0.266
CE-144	1.736E+02		7.240E+01	3.029E+02	6.249E+00	0.573
CEPR-144	3.507E+02		1.451E+02	6.072E+02	1.253E+01	0.577
PM-144	3.683E+00		4.849E+00	2.025E+01	4.090E-01	0.182
PM-146	1.289E+00		7.651E+00	2.995E+01	6.001E-01	0.043
EU-152	2.744E+01		2.293E+01	9.471E+01	1.894E+00	0.290
EU-154	-6.767E+00		6.618E+00	2.354E+01	4.960E-01	-0.288
EU-155	-2.125E+01		3.224E+01	1.171E+02	2.456E+00	-0.182
HF-181	9.757E+00		5.625E+00	2.591E+01	5.196E-01	0.377
BI-207	-3.960E+00		3.456E+00	1.216E+01	2.449E-01	-0.326
TL-208	-2.351E+00		4.383E+00	1.680E+01	3.387E-01	-0.140
BI-210M	-3.057E+00		1.021E+01	3.831E+01	7.683E-01	-0.080
BI-212	4.843E+01		6.156E+01	2.653E+02	8.104E+00	0.183
PB-212	-1.819E+01		1.636E+01	5.617E+01	1.129E+00	-0.324
BI-214	5.106E+00		1.044E+01	4.251E+01	8.582E-01	0.120
PB-214	-1.601E+01		2.379E+01	7.110E+01	1.422E+00	-0.225
RA-223	-5.513E+01		4.429E+01	1.492E+02	2.991E+00	-0.370
RA-224DA	-1.830E+01		1.646E+01	5.650E+01	1.136E+00	-0.324
RA-226DA	4.919E+00		1.042E+01	4.238E+01	8.556E-01	0.116
AC-227DA	5.192E+01		6.397E+01	2.497E+02	5.022E+00	0.208
AC-228	-7.107E-01		1.610E+01	6.309E+01	1.298E+00	-0.011
RA-228DA	-7.121E-01		1.613E+01	6.321E+01	1.301E+00	-0.011
TH-228DA	-6.582E+00		1.227E+01	4.704E+01	9.482E-01	-0.140
TH-232DA	-1.043E+01		4.927E+01	1.790E+02	3.580E+00	-0.058
TH-234DA	-7.022E+02		4.549E+02	1.466E+03	3.035E+01	-0.479
U-234DA	1.483E+00		3.151E+01	1.183E+02	2.368E+00	0.013
U-235HP	-1.575E+02		7.963E+01	2.516E+02	5.168E+00	-0.626
NP-237DA	2.575E+01		1.458E+01	6.346E+01	1.270E+00	0.406
U-238DA	-1.601E+01		2.379E+01	7.110E+01	1.422E+00	-0.225
U-238DHP	-2.758E+02		2.430E+02	8.164E+02	1.797E+01	-0.338
AM-241HP	1.983E+01		2.102E+01	8.284E+01	1.837E+00	0.239

STL Richland WA.

BA133

Sample ID: H8M051AC
Detector ID: NAI1 1

Library: [NUC_LIBR]BA133.NLB



Acquisition Start: 18-JUL-2006 09:57:17.76
Preset Live Time: 0 00:30:00
Elapsed Live Time: 0 00:30:00
Weighting: DERIVED

Start Channel: 80
End Channel: 113
Iterations: 5
Gain shift: Iter

SAMPLE IDENTIFICATION: H8M051AC

CONFIGURATION ID: NAI1:H8M051AC_180760957
TITLE : BA133
SAMPLE ID : H8M051AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:57:17
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 17-NOV-1993 10:39:59.60
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY:

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 0.0000E+00 keV
ENERGY SLOPE: 4.0000E+00 keV/C
ENERGY Q COEFF: 0.0000E+00 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: -.2302E+02 keV
FWHM SLOPE: 5.7163E+00 sqr keV
ITERATIONS: 5
GAUSSIAN SENSITIVITY: 35.00 %

ABUNDANCE LIMIT: 75.00 %
ENERGY TOLERANCE: 20.000 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]BA133.NLB

VMS NAI Report V1.2 Generated 18-JUL-2006 10:27:23

Configuration	: RDND06$DKA100:[NAI1.SAMPLE]H8M051AC_180760957.CNF;1		
Analyses by	: NAI V3.0		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:57:17
Sample ID	: H8M051AC	Sample quantity	: 1.0000 sampl
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.65 0.0%
Sample Multiplier	: 1.00	Rejection Coeff.	: 0.00
Gain shift type	: ITER	Threshold Shift	: No
Weighting type	: DERIVED	Calculated counts	: No
Iterations	: 5		

NAI Residuals Report

Ratio of Residuals Over Standard Deviation Per Channel

80:	4.9	5.4	5.0	2.4	4.9	5.1	3.1	2.7
88:	0.8	1.3	-1.9	-0.2	1.1	-0.6	0.0	-0.8
96:	-1.0	-3.2	-2.0	0.5	-4.5	-2.9	-3.3	-4.0
104:	-4.1	-5.3	-1.9	-3.5	-4.5	-4.6	-5.1	-3.3
112:	-4.3	-4.5						

List of Suspicious Channels

81 82 83 84 85 86

Iteration	Chi-Squared	Threshold Shift	Gain Shift
1	1.07E+01	0.00E+00	1.02E+00
2	7.28E+00	0.00E+00	1.04E+00
3	2.48E+00	0.00E+00	1.06E+00
4	1.15E+00	0.00E+00	1.07E+00

Brief Report

Nuclide	Activity DPM/sampl	1-Sigma Error
BA-133	722.	9.46

Total Activity :	722.	

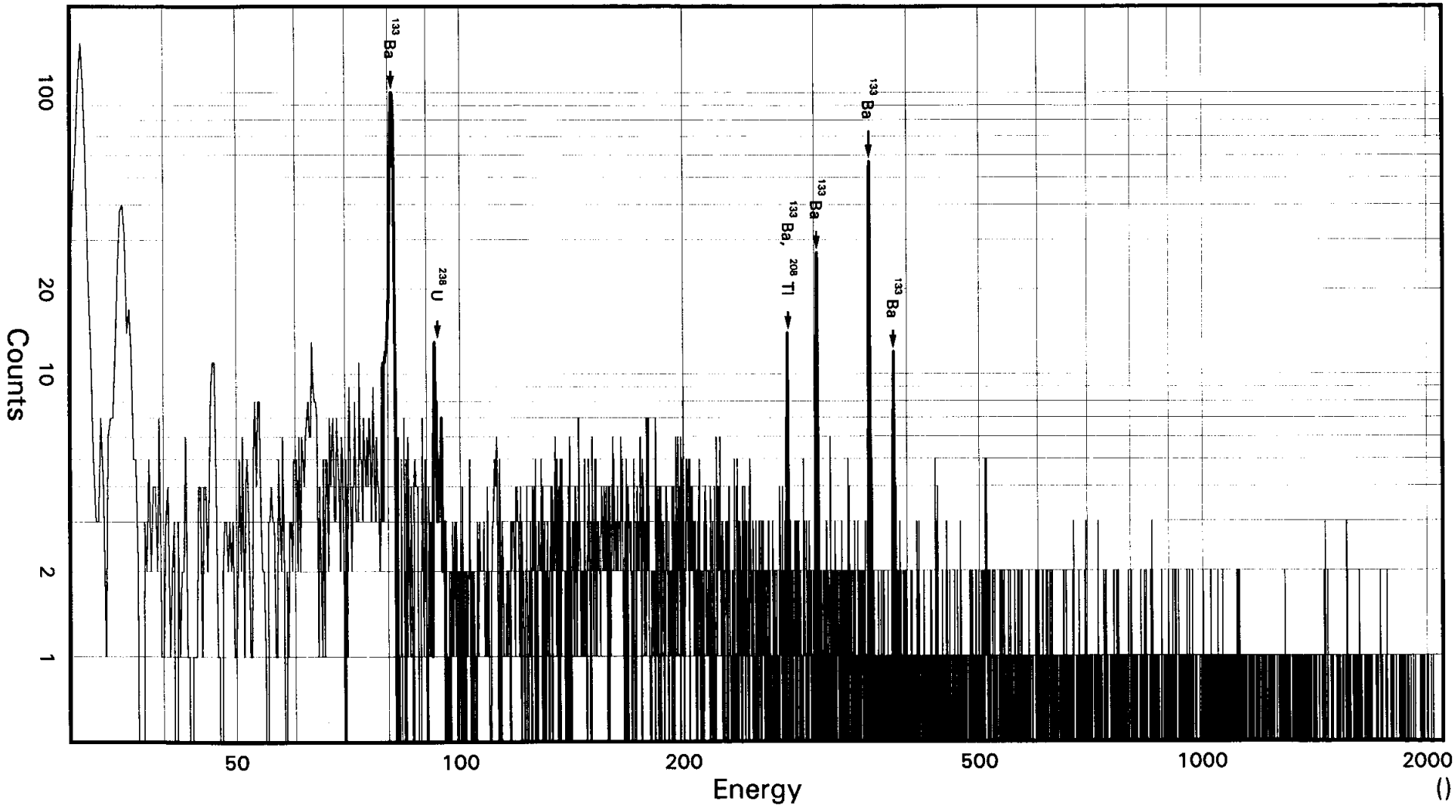
STL Richland WA.

BA133

Sample ID: H8M081AC

Detector ID: GER5 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:57:24.79

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: -3.89940E-01

Slope: 2.49420E-01

Quadrature: -2.39813E-09

SAMPLE IDENTIFICATION: H8M081AC

CONFIGURATION ID: GER5:H8M081AC_180760957
TITLE : BA133
SAMPLE ID : H8M081AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:57:24
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:01:30.72
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.3899E+00 keV
ENERGY SLOPE: 2.4942E-01 keV/C
ENERGY Q COEFF: -.2398E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 7.4664E-01 keV
FWHM SLOPE: 2.8479E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:27:37

Configuration : RDND06$DKA100:[GER5.SAMPLE]H8M081AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:24
Sample ID : H8M081AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Start energy : 19.56 End energy : 2042.70
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.87	579	83	0.80	125.35	116	17	3.22E-01	5.5	
2	0	35.35	204	17	0.96	143.29	136	16	1.13E-01	8.5	
3	0	46.54*	8	20	0.75	188.17	182	12	4.38E-03	138.1	
4	0	80.95	425	79	1.01	326.11	317	15	2.36E-01	6.6	
5	0	93.34*	37	16	2.27	375.79	367	19	2.04E-02	35.8	
6	0	277.34	28	27	0.35	1113.50	1100	18	1.54E-02	48.0	
7	0	302.79	110	8	0.86	1215.57	1207	15	6.10E-02	11.0	
8	0	355.98	272	0	1.02	1428.83	1419	17	1.51E-01	6.1	
9	0	383.72	48	3	0.77	1540.02	1534	12	2.67E-02	16.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 18-JUL-2006 10:27:38

Configuration : RDND06$DKA100:[GER5.SAMPLE]H8M081AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:24
Sample ID : H8M081AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	425	33.00	1.924E+00	2.231E+03	2.234E+03	8.55
	276.40	28	6.90	2.077E+00	6.436E+02	6.443E+02	48.31
	302.84	110	17.80	2.080E+00	9.883E+02	9.893E+02	12.26
	356.00	272	62.05*	2.082E+00	7.019E+02	7.027E+02	8.11
	383.85	48	8.70	2.081E+00	8.840E+02	8.850E+02	17.01

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8M081AC

Acquisition date : 18-JUL-2006 09:57:24

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.87	579	83	0.80	125.35	116	17	3.22E-01	5.5	1.68E+00	
0	35.35	204	17	0.96	143.29	136	16	1.13E-01	8.5	1.72E+00	
0	46.54	8	20	0.75	188.17	182	12	4.38E-03	****	1.79E+00	
0	93.34	37	16	2.27	375.79	367	19	2.04E-02	35.8	1.95E+00	T

Flags: "T" = Tentatively associated

Sample ID : H8M081AC
Acquisition date : 18-JUL-2006 09:57:24

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	6.531E+02	48.31	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
U-238DHP	4.47E+09Y	0.00	63.28*	3.80	--- Not Found ---		Abun.
			92.59	5.41	1.162E+03	36.20	
		% Abundances Found =		58.74			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.1 Generated 18-JUL-2006 10:27:39

Configuration : RDND06$DKA100:[GER5.SAMPLE]H8M081AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:24
Sample ID : H8M081AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.027E+02	5.698E+01	4.217E+01	8.434E-01	16.663

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-3.620E+01		5.360E+01	1.998E+02	4.009E+00	-0.181
NA-22	-1.522E+00		3.734E+00	1.583E+01	3.356E-01	-0.096
NA-24	-5.238E-04		1.218E-03	Half-Life too short		
K-40	-2.050E+01		4.966E+01	2.685E+02	5.768E+00	-0.076
SC-46	-1.967E-01		5.638E+00	2.310E+01	4.843E-01	-0.009
CR-51	3.570E+01		9.930E+01	3.927E+02	7.858E+00	0.091
MN-54	-4.062E+00		6.851E+00	2.499E+01	5.131E-01	-0.163
CO-57	6.244E+01		1.208E+02	4.459E+02	9.218E+00	0.140
CO-58	3.213E+00		5.625E+00	2.465E+01	5.052E-01	0.130
FE-59	-3.472E+00		8.690E+00	3.499E+01	7.324E-01	-0.099
CO-60	-4.965E+00		3.758E+00	1.256E+01	2.674E-01	-0.395
ZN-65	-4.246E-01		1.177E+01	4.739E+01	9.932E-01	-0.009
SE-75	1.572E+00		1.359E+01	5.229E+01	1.049E+00	0.030
SR-85	-4.869E+01		1.287E+01	3.199E+01	6.429E-01	-1.522
Y-88	4.929E+00		3.978E+00	2.139E+01	4.712E-01	0.230
NB-94	2.180E+00		3.707E+00	1.823E+01	3.753E-01	0.120
NB-95	-7.792E+00		7.019E+00	2.413E+01	4.929E-01	-0.323
TC-95M	1.446E+01		2.261E+01	8.422E+01	1.703E+00	0.172
ZR-95	-1.632E+01		1.066E+01	3.390E+01	6.919E-01	-0.481
ZRNB-95	-1.477E+01		1.331E+01	4.576E+01	9.346E-01	-0.323
MO-99	-2.422E+01		6.184E+01	2.238E+02	4.616E+00	-0.108
RH-101	1.181E+01		1.916E+01	7.140E+01	1.446E+00	0.165
RH-102M	-1.041E+01		6.533E+00	2.065E+01	4.142E-01	-0.504
RU-103	-1.041E+01		8.549E+00	2.870E+01	5.763E-01	-0.363
RU-106DA	-6.329E+01		5.696E+01	2.006E+02	4.056E+00	-0.316
AG-108M	-2.718E+01		9.074E+00	2.320E+01	4.646E-01	-1.172
AG-110M	-6.546E+00		5.007E+00	1.698E+01	3.499E-01	-0.385

Sample ID : H8M081AC Acquisition date : 18-JUL-2006 09:57:24

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	1.516E+01		1.294E+01	5.415E+01	1.083E+00	0.280
SB-124	7.470E+00		6.096E+00	2.818E+01	5.692E-01	0.265
SB-125	-2.769E+01		2.274E+01	7.735E+01	1.549E+00	-0.358
SN-126DA	-6.355E+00		6.051E+00	2.129E+01	4.318E-01	-0.299
I-131	-2.399E+00		1.334E+01	5.211E+01	1.042E+00	-0.046
CS-134	1.792E+00		4.378E+00	2.076E+01	4.249E-01	0.086
CS-137DA	7.700E+00		6.029E+00	2.864E+01	5.807E-01	0.269
LA-138	-2.454E+00		2.630E+00	9.495E+00	2.036E-01	-0.258
CE-139	-6.726E+00		1.775E+01	6.340E+01	1.295E+00	-0.106
BA-140	-8.712E+01		4.065E+01	1.164E+02	2.342E+00	-0.748
BALA-140	-5.317E+00		8.864E+00	3.686E+01	7.993E-01	-0.144
LA-140	-2.236E+01		3.728E+01	1.550E+02	3.362E+00	-0.144
CE-141	-1.779E+01		3.011E+01	1.074E+02	2.210E+00	-0.166
CE-144	1.435E+02		1.194E+02	4.576E+02	9.474E+00	0.314
CEPR-144	2.871E+02		2.387E+02	9.153E+02	1.895E+01	0.314
PM-144	3.261E+00		5.133E+00	2.307E+01	4.664E-01	0.141
PM-146	5.281E+00		1.004E+01	4.163E+01	8.343E-01	0.127
EU-152	3.513E+00		3.135E+01	1.216E+02	2.432E+00	0.029
EU-154	-4.272E+00		1.048E+01	4.443E+01	9.420E-01	-0.096
EU-155	-4.846E+01		5.497E+01	1.881E+02	3.969E+00	-0.258
HF-181	-1.401E+00		6.699E+00	2.687E+01	5.391E-01	-0.052
BI-207	3.769E+00		6.063E+00	2.620E+01	5.281E-01	0.144
TL-208	9.752E+00		5.727E+00	2.879E+01	5.808E-01	0.339
BI-210M	-1.772E+01		1.716E+01	5.852E+01	1.174E+00	-0.303
BI-212	-9.016E-01		6.108E+01	2.666E+02	8.151E+00	-0.003
PB-212	-6.490E+01		2.636E+01	8.643E+01	1.738E+00	-0.751
BI-214	1.103E+01		1.246E+01	5.541E+01	1.120E+00	0.199
PB-214	-1.396E+01		2.329E+01	7.081E+01	1.416E+00	-0.197
RA-223	7.354E+01		7.311E+01	2.888E+02	5.793E+00	0.255
RA-224DA	-6.529E+01		2.651E+01	8.694E+01	1.749E+00	-0.751
RA-226DA	1.103E+01		1.246E+01	5.541E+01	1.120E+00	0.199
AC-227DA	6.727E+01		9.182E+01	3.557E+02	7.157E+00	0.189
AC-228	3.024E+01		2.073E+01	1.026E+02	2.118E+00	0.295
RA-228DA	3.029E+01		2.077E+01	1.028E+02	2.122E+00	0.295
TH-228DA	2.730E+01		1.604E+01	8.060E+01	1.626E+00	0.339
TH-232DA	1.538E+01		6.752E+01	2.641E+02	5.282E+00	0.058
TH-234DA	-2.397E+02		9.186E+02	3.608E+03	7.498E+01	-0.066
U-234DA	6.166E+01		4.531E+01	1.873E+02	3.751E+00	0.329
U-235HP	2.045E+02		1.240E+02	4.943E+02	1.018E+01	0.414
NP-237DA	-1.372E+01		2.641E+01	9.647E+01	1.931E+00	-0.142
U-238DA	-1.396E+01		2.329E+01	7.081E+01	1.416E+00	-0.197
U-238DHP	7.624E+02		5.304E+02	2.100E+03	4.674E+01	0.363
AM-241HP	-8.535E+01		4.661E+01	1.517E+02	3.402E+00	-0.563

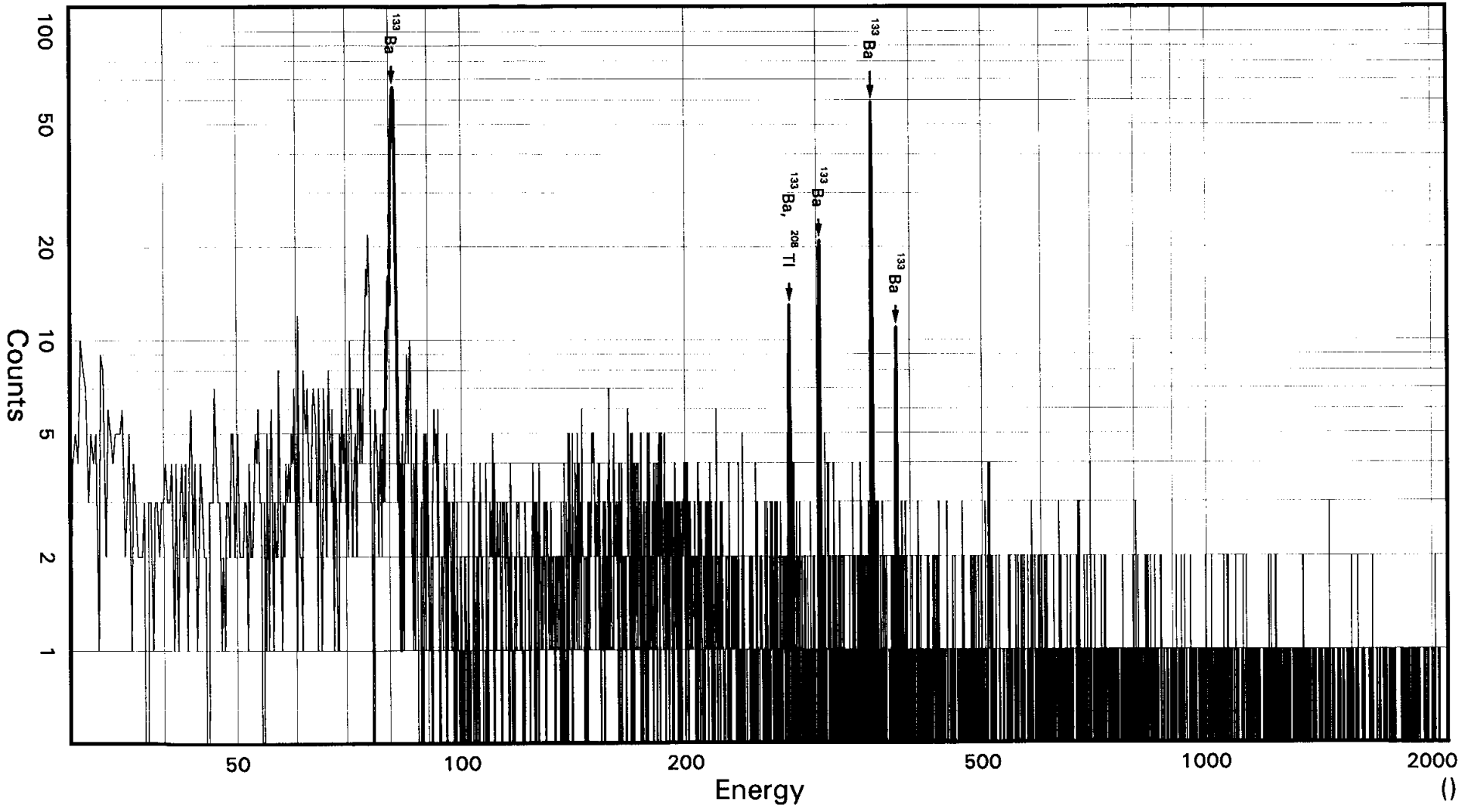
STL Richland WA.

BA133

Sample ID: H8M1C1AC

Detector ID: GER7 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:57:44.94

Preset Live Time: 0 00:30:00.00

Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:

Offset: 5.82696E-01

Slope: 2.49214E-01

Quadrature: 1.23727E-07

SAMPLE IDENTIFICATION: H8M1C1AC

CONFIGURATION ID: GER7:H8M1C1AC_180760957
TITLE : BA133
SAMPLE ID : H8M1C1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:57:44
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:00.79
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 5.8270E-01 keV
ENERGY SLOPE: 2.4921E-01 keV/C
ENERGY Q COEFF: 1.2373E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 5.3250E-01 keV
FWHM SLOPE: 3.9297E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:28:02

```
Configuration     : $DISK1:[GER7.SAMPLE]H8M1C1AC_180760957.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:44
Sample ID         : H8M1C1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.19   0.0%
Start energy      :    20.52             End energy       :  2050.45
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	74.98*	31	47	0.96	298.49	291	13	1.73E-02	53.4	
2	0	80.88	336	54	1.20	322.16	313	18	1.87E-01	7.5	
3	0	276.43	47	16	0.77	1106.26	1097	16	2.63E-02	23.8	
4	0	302.81	105	8	1.12	1212.00	1205	15	5.81E-02	11.3	
5	0	355.86	290	11	1.29	1424.59	1416	20	1.61E-01	6.5	
6	0	383.60	59	0	1.33	1535.71	1527	16	3.28E-02	13.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:03

Configuration : $DISK1:[GER7.SAMPLE]H8M1C1AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:44
Sample ID : H8M1C1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	336	33.00	1.923E+00	1.767E+03	1.769E+03	9.25
	276.40	47	6.90	2.076E+00	1.101E+03	1.102E+03	24.43
	302.84	105	17.80	2.078E+00	9.415E+02	9.425E+02	12.54
	356.00	290	62.05*	2.080E+00	7.481E+02	7.489E+02	8.42
	383.85	59	8.70	2.080E+00	1.087E+03	1.088E+03	14.09

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8M1C1AC

Acquisition date : 18-JUL-2006 09:57:44

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	74.98	31	47	0.96	298.49	291	13	1.73E-02	53.4	1.91E+00	

Flags: "T" = Tentatively associated

Sample ID : H8M1C1AC
Acquisition date : 18-JUL-2006 09:57:44

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.117E+03	24.43	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:06

Configuration : $DISK1:[GER7.SAMPLE]H8M1C1AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:44
Sample ID : H8M1C1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.19 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.489E+02	6.302E+01	5.406E+01	1.081E+00	13.853

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.396E+01		5.329E+01	1.928E+02	3.868E+00	-0.228
NA-22	3.514E+00		4.145E+00	2.049E+01	4.344E-01	0.172
K-40	-1.672E+01		5.213E+01	2.686E+02	5.771E+00	-0.062
SC-46	6.639E+00		3.441E+00	2.068E+01	4.337E-01	0.321
CR-51	-3.009E+01		9.401E+01	3.449E+02	6.900E+00	-0.087
MN-54	-2.604E-02		4.723E+00	2.000E+01	4.107E-01	-0.001
CO-57	6.541E+00		9.792E+01	3.670E+02	7.586E+00	0.018
CO-58	-3.416E+00		6.529E+00	2.467E+01	5.055E-01	-0.138
FE-59	-3.310E+00		8.633E+00	3.501E+01	7.329E-01	-0.095
CO-60	4.591E-02		3.396E+00	1.586E+01	3.377E-01	0.003
ZN-65	-6.422E-02		6.762E+00	3.122E+01	6.544E-01	-0.002
SE-75	3.881E+00		1.567E+01	6.007E+01	1.205E+00	0.065
SR-85	-1.463E+01		1.068E+01	3.613E+01	7.262E-01	-0.405
Y-88	-1.434E-01		3.728E+00	1.705E+01	3.756E-01	-0.008
NB-94	-3.451E+00		4.722E+00	1.774E+01	3.651E-01	-0.195
NB-95	-7.143E+00		4.438E+00	1.355E+01	2.768E-01	-0.527
TC-95M	1.280E-01		1.769E+01	6.617E+01	1.338E+00	0.002
ZR-95	-6.514E-01		8.607E+00	3.664E+01	7.479E-01	-0.018
ZRNB-95	-1.354E+01		8.415E+00	2.570E+01	5.249E-01	-0.527
MO-99	2.230E+01		6.009E+01	2.243E+02	4.627E+00	0.099
RH-101	9.444E+00		1.651E+01	6.316E+01	1.279E+00	0.150
RH-102M	-2.631E+00		5.704E+00	2.175E+01	4.363E-01	-0.121
RU-103	1.167E+00		7.991E+00	3.181E+01	6.388E-01	0.037
RU-106DA	1.225E+01		6.470E+01	2.625E+02	5.309E+00	0.047
AG-108M	-1.252E+01		9.440E+00	3.142E+01	6.292E-01	-0.399
AG-110M	4.567E+00		4.657E+00	2.486E+01	5.123E-01	0.184
SN-113DA	-5.304E+00		1.288E+01	4.767E+01	9.538E-01	-0.111

Sample ID : H8M1C1AC Acquisition date : 18-JUL-2006 09:57:44

---- Non-Identified Nuclides ----

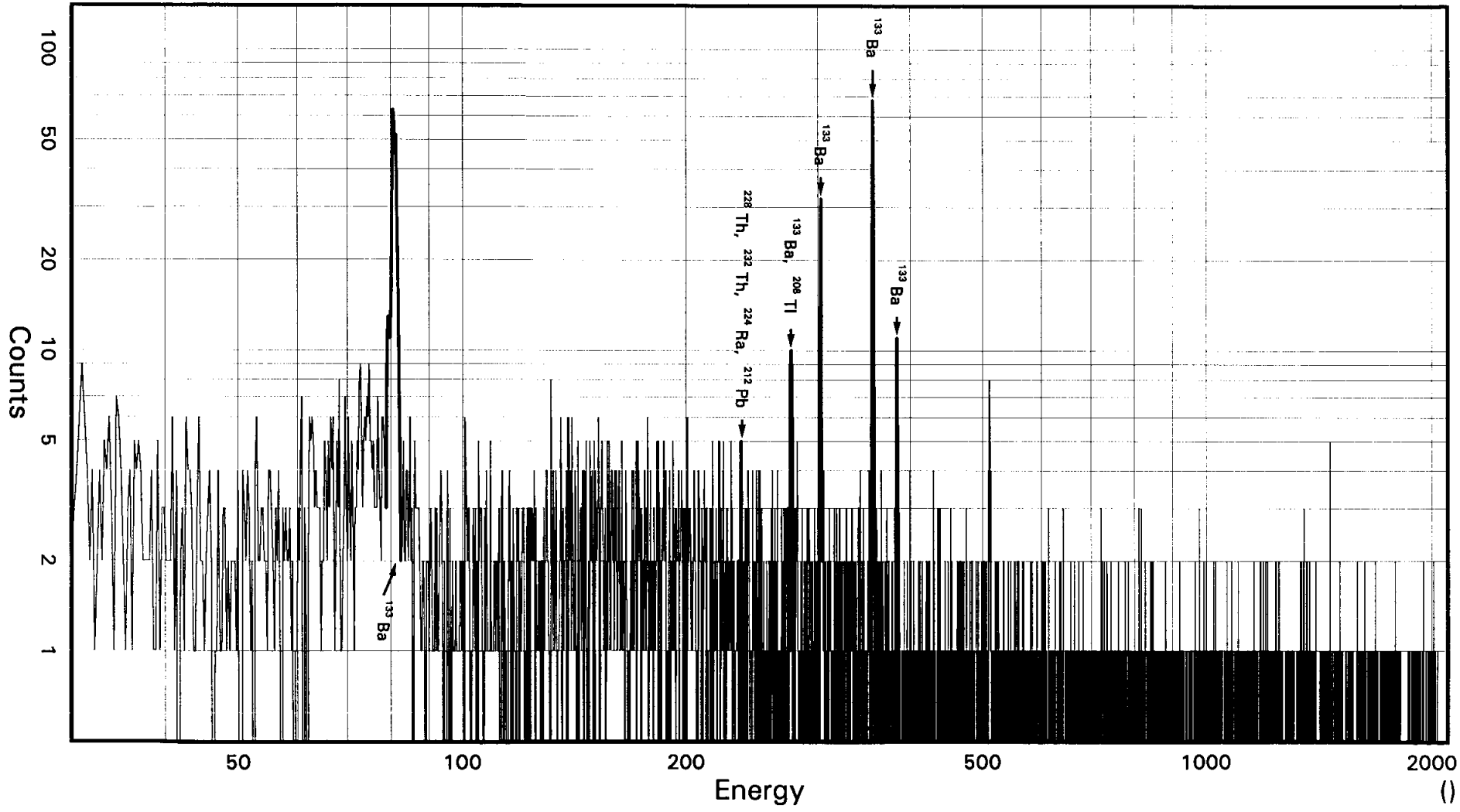
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	4.377E-01		6.688E+00	2.696E+01	5.446E-01	0.016
SB-125	-2.820E+01		2.287E+01	7.739E+01	1.550E+00	-0.364
SN-126DA	-4.074E+00		4.609E+00	1.674E+01	3.396E-01	-0.243
I-131	-2.987E+01		1.654E+01	5.292E+01	1.058E+00	-0.564
CS-134	-3.672E+00		7.177E+00	2.721E+01	5.570E-01	-0.135
CS-137DA	-4.065E+00		4.783E+00	1.772E+01	3.593E-01	-0.229
LA-138	-7.190E-02		5.188E+00	2.390E+01	5.126E-01	-0.003
CE-139	-1.354E+01		1.468E+01	4.999E+01	1.021E+00	-0.271
BA-140	-3.371E+01		2.456E+01	8.249E+01	1.660E+00	-0.409
BALA-140	5.283E+00		1.110E+01	5.396E+01	1.170E+00	0.098
LA-140	2.222E+01		4.670E+01	2.270E+02	4.922E+00	0.098
CE-141	-1.884E+00		2.795E+01	1.017E+02	2.093E+00	-0.019
CE-144	-6.072E+01		9.789E+01	3.484E+02	7.214E+00	-0.174
CEPR-144	-1.214E+02		1.958E+02	6.969E+02	1.443E+01	-0.174
PM-144	-5.085E+00		6.002E+00	2.166E+01	4.379E-01	-0.235
PM-146	1.502E+01		7.110E+00	3.732E+01	7.479E-01	0.402
EU-152	1.005E+01		3.069E+01	1.216E+02	2.433E+00	0.083
EU-154	8.835E+00		1.142E+01	5.630E+01	1.194E+00	0.157
EU-155	3.257E+01		4.711E+01	1.880E+02	3.965E+00	0.173
HF-181	3.496E+00		7.532E+00	3.188E+01	6.396E-01	0.110
BI-207	-1.488E+00		5.434E+00	2.166E+01	4.366E-01	-0.069
TL-208	1.204E+01		7.284E+00	3.552E+01	7.166E-01	0.339
BI-210M	-9.701E+00		1.744E+01	6.284E+01	1.261E+00	-0.154
BI-212	-6.512E+01		9.375E+01	3.495E+02	1.069E+01	-0.186
PB-212	5.474E+00		2.062E+01	8.490E+01	1.708E+00	0.064
BI-214	1.799E+01		1.537E+01	6.619E+01	1.338E+00	0.272
PB-214	-5.702E+00		2.531E+01	8.481E+01	1.696E+00	-0.067
RA-223	5.638E+01		6.397E+01	2.580E+02	5.175E+00	0.219
RA-224DA	5.507E+00		2.074E+01	8.541E+01	1.718E+00	0.064
RA-226DA	1.813E+01		1.539E+01	6.629E+01	1.340E+00	0.274
AC-227DA	-1.389E+02		8.634E+01	2.830E+02	5.695E+00	-0.491
AC-228	7.947E+00		1.270E+01	7.167E+01	1.479E+00	0.111
RA-228DA	7.962E+00		1.272E+01	7.181E+01	1.482E+00	0.111
TH-228DA	3.371E+01		2.040E+01	9.944E+01	2.006E+00	0.339
TH-232DA	-8.586E+01		6.657E+01	2.283E+02	4.566E+00	-0.376
TH-234DA	-9.956E+02		5.007E+02	6.923E+02	1.439E+01	-1.438
U-234DA	-2.507E+01		4.314E+01	1.546E+02	3.095E+00	-0.162
U-235HP	1.101E+02		1.151E+02	4.439E+02	9.144E+00	0.248
NP-237DA	2.745E+01		2.444E+01	9.932E+01	1.988E+00	0.276
U-238DA	-5.702E+00		2.531E+01	8.481E+01	1.696E+00	-0.067
U-238DHP	4.315E+02		4.418E+02	1.666E+03	3.709E+01	0.259
AM-241HP	1.434E+01		4.578E+01	1.664E+02	3.733E+00	0.086

STL Richland WA.

BA133

Sample ID: H8M1E1AC
Detector ID: GER10 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:57:50.47
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 1.56616E+01
Slope: 2.46967E-01
Quadrature: 8.24142E-11

SAMPLE IDENTIFICATION: H8M1E1AC

CONFIGURATION ID: GER10:H8M1E1AC_180760957
TITLE : BA133
SAMPLE ID : H8M1E1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:57:50
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:33.38
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 1.5662E+01 keV
ENERGY SLOPE: 2.4697E-01 keV/C
ENERGY Q COEFF: 8.2414E-11 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 9.2265E-01 keV
FWHM SLOPE: 2.8650E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:28:19

```
Configuration     : $DISK1:[GER10.SAMPLE]H8M1E1AC_180760957.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:50
Sample ID         : H8M1E1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.22   0.0%
Start energy      :    18.13             End energy       :  2038.82
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.91	311	81	1.19	264.18	254	19	1.73E-01	9.0	
2	0	237.78	8	12	0.53	899.40	887	16	4.57E-03	100.3	
3	0	276.26	75	0	1.90	1055.20	1044	21	4.17E-02	11.5	
4	0	302.89	102	29	0.65	1163.04	1155	15	5.66E-02	15.3	
5	0	356.04	346	10	1.10	1378.24	1368	19	1.92E-01	5.8	
6	0	383.77	66	0	1.13	1490.53	1480	20	3.67E-02	12.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:19

Configuration : $DISK1:[GER10.SAMPLE]H8M1E1AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:50
Sample ID : H8M1E1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	311	33.00	2.399E+00	1.309E+03	1.311E+03	10.48
	276.40	75	6.90	2.578E+00	1.405E+03	1.407E+03	12.74
	302.84	102	17.80	2.582E+00	7.384E+02	7.392E+02	16.25
	356.00	346	62.05*	2.584E+00	7.183E+02	7.190E+02	7.91
	383.85	66	8.70	2.584E+00	9.788E+02	9.798E+02	13.44

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	8	44.60*	2.570E+00	2.392E+01	2.392E+01	100.40
	300.09	------	3.41	2.581E+00	------	Line Not Found	------

Flag: "*" = Keyline

Sample ID : H8M1E1AC
Acquisition date : 18-JUL-2006 09:57:50

None

Flags: "T" = Tentatively associated

Sample ID : H8M1E1AC Acquisition date : 18-JUL-2006 09:57:50

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.426E+03	12.74	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-224DA	1.91Y	0.01	238.63*	44.60	2.406E+01	100.40	Abun.
			240.98	3.95	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-228DA	1.91Y	0.01	238.63	44.60	2.406E+01	100.40	Abun.
			240.98	3.95	--- Not Found ---		
			583.14*	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-232DA	1.41E+10Y	0.00	238.63	44.60	2.392E+01	100.40	Abun.
			338.32*	12.40	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			911.07	27.70	--- Not Found ---		
			964.60	5.20	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		32.61			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:21

Configuration : $DISK1:[GER10.SAMPLE]H8M1E1AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:50
Sample ID : H8M1E1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.190E+02	5.685E+01	4.842E+01	9.683E-01	14.851
PB-212	2.392E+01	2.402E+01	8.354E+01	1.680E+00	0.286

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-5.454E+00		5.819E+01	2.233E+02	4.479E+00	-0.024
NA-22	2.298E+00		2.614E+00	1.410E+01	2.979E-01	0.163
K-40	5.898E+01		5.436E+01	2.600E+02	5.564E+00	0.227
SC-46	7.375E-01		3.605E+00	1.677E+01	3.506E-01	0.044
CR-51	5.984E+01		8.690E+01	3.453E+02	6.910E+00	0.173
MN-54	3.139E-01		4.930E+00	2.011E+01	4.121E-01	0.016
CO-57	-7.974E+01		1.055E+02	3.694E+02	7.621E+00	-0.216
CO-58	1.002E+01		5.057E+00	2.450E+01	5.013E-01	0.409
FE-59	-3.145E+00		8.831E+00	3.424E+01	7.149E-01	-0.092
CO-60	1.402E+00		4.937E+00	2.058E+01	4.366E-01	0.068
ZN-65	5.199E+00		6.708E+00	3.243E+01	6.779E-01	0.160
SE-75	1.049E+01		1.366E+01	5.319E+01	1.067E+00	0.197
SR-85	-2.443E+01		1.093E+01	3.446E+01	6.924E-01	-0.709
Y-88	0.000E+00		0.000E+00	3.994E+00	8.752E-02	0.000
NB-94	-1.827E+00		4.234E+00	1.663E+01	3.417E-01	-0.110
NB-95	-4.882E+00		5.055E+00	1.779E+01	3.630E-01	-0.274
TC-95M	1.022E+01		1.684E+01	6.295E+01	1.272E+00	0.162
ZR-95	-1.103E+01		9.746E+00	3.322E+01	6.773E-01	-0.332
ZRNB-95	-9.257E+00		9.585E+00	3.373E+01	6.882E-01	-0.274
MO-99	9.063E+01		5.484E+01	2.156E+02	4.440E+00	0.420
RH-101	-2.148E+00		1.496E+01	5.351E+01	1.083E+00	-0.040
RH-102M	-3.640E-01		6.586E+00	2.499E+01	5.011E-01	-0.015
RU-103	1.175E-01		7.525E+00	2.883E+01	5.787E-01	0.004
RU-106DA	-2.790E+01		4.625E+01	1.746E+02	3.530E+00	-0.160
AG-108M	-1.169E+01		8.067E+00	2.639E+01	5.286E-01	-0.443
AG-110M	-3.492E+00		5.807E+00	2.230E+01	4.587E-01	-0.157

---- Non-Identified Nuclides ----

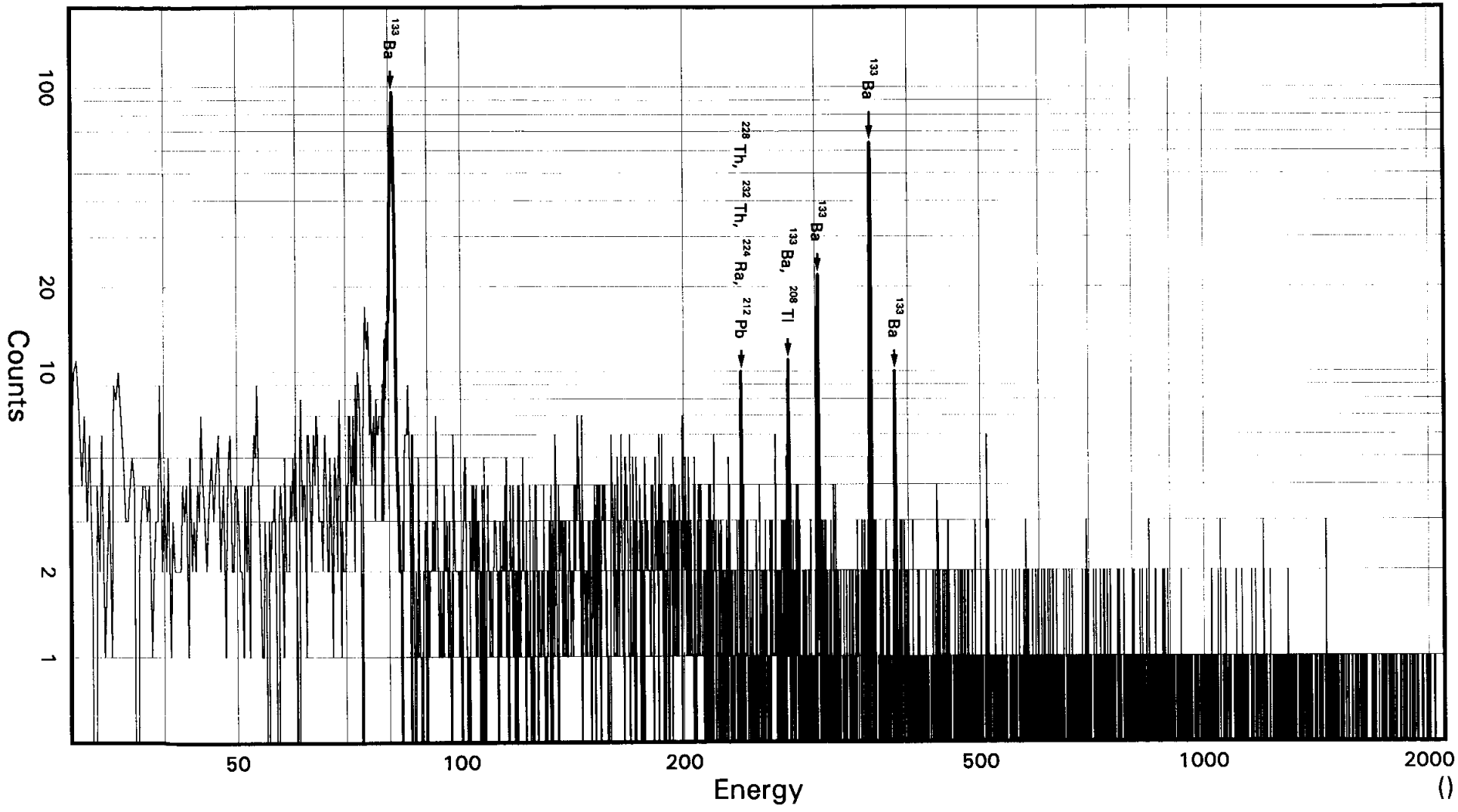
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-1.529E-01		7.720E+00	3.085E+01	6.172E-01	-0.005
SB-124	5.668E+00		6.004E+00	2.571E+01	5.191E-01	0.220
SB-125	-1.355E+01		2.339E+01	8.397E+01	1.681E+00	-0.161
SN-126DA	1.547E+00		4.403E+00	1.872E+01	3.793E-01	0.083
I-131	4.637E-01		1.538E+01	5.798E+01	1.160E+00	0.008
CS-134	4.871E+00		4.079E+00	2.042E+01	4.174E-01	0.239
CS-137DA	-8.612E-02		5.771E+00	2.305E+01	4.671E-01	-0.004
LA-138	-1.021E-01		5.102E+00	2.222E+01	4.747E-01	-0.005
CE-139	-4.637E+00		1.235E+01	4.433E+01	9.043E-01	-0.105
BA-140	-1.973E+01		2.879E+01	1.066E+02	2.144E+00	-0.185
BALA-140	4.158E+00		6.889E+00	3.731E+01	8.053E-01	0.111
LA-140	1.749E+01		2.898E+01	1.569E+02	3.388E+00	0.111
CE-141	3.120E+01		2.471E+01	9.630E+01	1.979E+00	0.324
CE-144	6.549E+00		1.014E+02	3.725E+02	7.697E+00	0.018
CEPR-144	1.107E+01		2.026E+02	7.442E+02	1.538E+01	0.015
PM-144	-5.227E+00		5.305E+00	1.875E+01	3.788E-01	-0.279
PM-146	2.677E+00		8.485E+00	3.408E+01	6.829E-01	0.079
EU-152	4.112E+01		2.918E+01	1.199E+02	2.397E+00	0.343
EU-154	5.047E+00		6.955E+00	3.749E+01	7.923E-01	0.135
EU-155	3.500E+01		4.789E+01	1.810E+02	3.806E+00	0.193
HF-181	1.011E+01		7.473E+00	3.257E+01	6.534E-01	0.310
BI-207	1.621E+00		5.734E+00	2.316E+01	4.667E-01	0.070
TL-208	1.724E+00		5.521E+00	2.318E+01	4.674E-01	0.074
BI-210M	-2.569E+01		1.597E+01	5.085E+01	1.020E+00	-0.505
BI-212	3.753E+01		6.387E+01	2.811E+02	8.590E+00	0.133
BI-214	-2.214E+01		1.191E+01	3.686E+01	7.444E-01	-0.601
PB-214	4.817E+01		2.167E+01	8.630E+01	1.726E+00	0.558
RA-223	1.181E+02		4.968E+01	2.195E+02	4.401E+00	0.538
RA-224DA	2.406E+01	+	2.416E+01	7.526E+01	1.513E+00	0.320
RA-226DA	-2.214E+01		1.191E+01	3.686E+01	7.444E-01	-0.601
AC-227DA	8.515E+01		8.043E+01	2.814E+02	5.661E+00	0.303
AC-228	3.136E-01		1.508E+01	6.286E+01	1.295E+00	0.005
RA-228DA	3.143E-01		1.510E+01	6.299E+01	1.298E+00	0.005
TH-228DA	4.828E+00		1.546E+01	6.490E+01	1.309E+00	0.074
TH-232DA	-1.273E+01		6.203E+01	2.297E+02	4.595E+00	-0.055
TH-234DA	9.161E+02		6.024E+02	2.990E+03	6.202E+01	0.306
U-234DA	3.884E+01		3.693E+01	1.516E+02	3.035E+00	0.256
U-235HP	-4.916E+01		1.040E+02	3.697E+02	7.604E+00	-0.133
NP-237DA	1.505E+00		2.219E+01	8.370E+01	1.675E+00	0.018
U-238DA	4.817E+01		2.167E+01	8.630E+01	1.726E+00	0.558
U-238DHP	-1.864E+02		3.658E+02	1.273E+03	2.816E+01	-0.146
AM-241HP	-3.608E+01		3.405E+01	1.156E+02	2.578E+00	-0.312

STL Richland WA.

BA133

Sample ID: H8M1G1AC
Detector ID: GER6 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:57:59.15
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -1.61436E-01
Slope: 2.49572E-01
Quadrature: -2.88852E-08

SAMPLE IDENTIFICATION: H8M1G1AC

CONFIGURATION ID: GER6:H8M1G1AC_180760957
TITLE : BA133
SAMPLE ID : H8M1G1AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:57:59
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:01:43.75
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.1614E+00 keV
ENERGY SLOPE: 2.4957E-01 keV/C
ENERGY Q COEFF: -.2889E-07 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 3.5209E-01 keV
FWHM SLOPE: 5.2422E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:28:34

```
Configuration     : $DISK1:[GER6.SAMPLE]H8M1G1AC_180760957.CNF;1
Analyses by       : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title      : BA133
Sample date       : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:59
Sample ID         : H8M1G1AC             Sample quantity  : 1.0000 SAMPL
Sample type       :                      Sample geometry  : BA133T15
Elapsed live time: 0 00:30:00.00         Elapsed real time: 0 00:30:00.23   0.0%
Start energy      :    19.80             End energy       :  2042.40
Sensitivity       :     5.00             Gaussian         :    10.00
Critical level    : No
```

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	80.76	392	63	0.84	324.24	315	18	2.18E-01	6.9	
2	0	239.46*	10	12	0.43	960.25	954	9	5.29E-03	80.4	
3	0	276.50	36	14	0.82	1108.67	1103	12	2.01E-02	26.9	
4	0	302.89	111	10	1.11	1214.46	1206	19	6.14E-02	11.6	
5	0	356.03	336	16	1.17	1427.44	1419	19	1.87E-01	6.1	
6	0	383.99	41	7	0.78	1539.50	1533	14	2.28E-02	20.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:34

Configuration	: $DISK1:[GER6.SAMPLE]H8M1G1AC_180760957.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:57:59
Sample ID	: H8M1G1AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.23 0.0%
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00		

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	392	33.00	2.166E+00	1.829E+03	1.831E+03	8.81
	276.40	36	6.90	2.334E+00	7.507E+02	7.515E+02	27.41
	302.84	111	17.80	2.337E+00	8.856E+02	8.865E+02	12.82
	356.00	336	62.05*	2.339E+00	7.724E+02	7.733E+02	8.13
	383.85	41	8.70	2.338E+00	6.718E+02	6.725E+02	21.45

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
PB-212	238.63	10	44.60*	2.326E+00	3.061E+01	3.061E+01	80.53
	300.09	------	3.41	2.336E+00	------	Line Not Found	------

Flag: "*" = Keyline

None

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8M1G1AC

Acquisition date : 18-JUL-2006 09:57:59

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	7.617E+02	27.41	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			
RA-224DA	1.91Y	0.01	238.63*	44.60	3.079E+01	80.53	Abun.
			240.98	3.95	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-228DA	1.91Y	0.01	238.63	44.60	3.079E+01	80.53	Abun.
			240.98	3.95	--- Not Found ---		
			583.14*	30.25	--- Not Found ---		
			860.37	4.48	--- Not Found ---		
		% Abundances Found =		53.55			
TH-232DA	1.41E+10Y	0.00	238.63	44.60	3.061E+01	80.53	Abun.
			338.32*	12.40	--- Not Found ---		
			583.14	30.25	--- Not Found ---		
			911.07	27.70	--- Not Found ---		
			964.60	5.20	--- Not Found ---		
			969.11	16.60	--- Not Found ---		
		% Abundances Found =		32.61			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:36

Configuration : $DISK1:[GER6.SAMPLE]H8M1G1AC_180760957.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:57:59
Sample ID : H8M1G1AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.23 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.733E+02	6.287E+01	5.047E+01	1.009E+00	15.322
PB-212	3.061E+01	2.465E+01	6.453E+01	1.298E+00	0.474

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-1.784E+01		6.425E+01	2.444E+02	4.902E+00	-0.073
NA-22	-8.495E-02		3.074E+00	1.407E+01	2.977E-01	-0.006
K-40	-7.857E+01		6.861E+01	3.212E+02	6.885E+00	-0.245
SC-46	-2.931E+00		4.364E+00	1.686E+01	3.529E-01	-0.174
CR-51	2.863E+01		9.553E+01	3.700E+02	7.403E+00	0.077
MN-54	-5.863E-01		4.663E+00	1.894E+01	3.886E-01	-0.031
CO-57	4.335E+00		9.937E+01	3.686E+02	7.612E+00	0.012
CO-58	-6.334E+00		5.861E+00	2.038E+01	4.174E-01	-0.311
FE-59	-2.501E+00		7.504E+00	3.110E+01	6.501E-01	-0.080
CO-60	-1.393E+00		3.339E+00	1.408E+01	2.993E-01	-0.099
ZN-65	-5.646E+00		7.193E+00	2.773E+01	5.804E-01	-0.204
SE-75	1.425E+01		1.675E+01	6.469E+01	1.298E+00	0.220
SR-85	-1.263E+01		9.461E+00	3.129E+01	6.287E-01	-0.404
Y-88	3.922E-02		2.287E+00	1.204E+01	2.644E-01	0.003
NB-94	5.752E+00		4.196E+00	2.065E+01	4.248E-01	0.278
NB-95	1.473E-01		5.634E+00	2.309E+01	4.714E-01	0.006
TC-95M	-4.882E+00		1.696E+01	6.177E+01	1.249E+00	-0.079
ZR-95	-7.852E+00		9.216E+00	3.384E+01	6.904E-01	-0.232
ZRNB-95	2.793E-01		1.068E+01	4.379E+01	8.938E-01	0.006
MO-99	-6.167E+01		5.068E+01	1.720E+02	3.545E+00	-0.359
RH-101	5.141E+00		1.566E+01	5.870E+01	1.188E+00	0.088
RH-102M	7.214E+00		6.889E+00	2.917E+01	5.852E-01	0.247
RU-103	7.026E+00		6.226E+00	2.829E+01	5.681E-01	0.248
RU-106DA	3.223E-01		5.939E+01	2.357E+02	4.766E+00	0.001
AG-108M	-2.053E+01		8.009E+00	2.291E+01	4.588E-01	-0.896
AG-110M	9.828E-01		8.608E+00	3.394E+01	6.987E-01	0.029

---- Non-Identified Nuclides ----

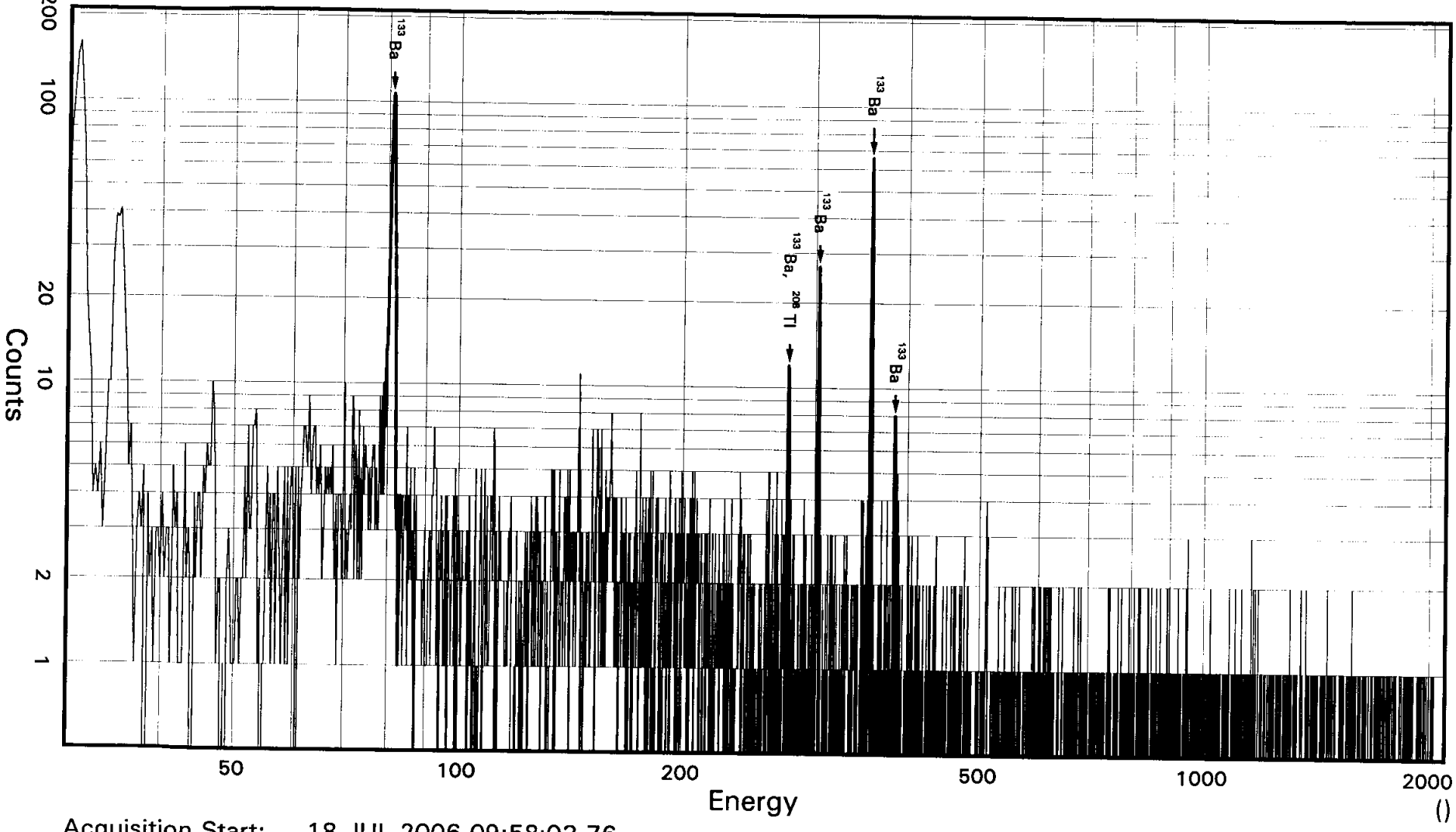
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SN-113DA	-5.235E+00		1.099E+01	4.001E+01	8.004E-01	-0.131
SB-124	2.821E+00		5.792E+00	2.457E+01	4.962E-01	0.115
SB-125	-3.240E+01		1.576E+01	4.533E+01	9.076E-01	-0.715
SN-126DA	-1.662E+00		4.861E+00	1.894E+01	3.840E-01	-0.088
I-131	-2.110E+01		1.295E+01	4.123E+01	8.246E-01	-0.512
CS-134	-1.472E+00		3.894E+00	1.632E+01	3.339E-01	-0.090
CS-137DA	-8.790E+00		5.742E+00	1.827E+01	3.702E-01	-0.481
LA-138	-2.680E-02		5.612E+00	2.460E+01	5.264E-01	-0.001
CE-139	9.479E+00		1.536E+01	5.705E+01	1.164E+00	0.166
BA-140	-2.272E+01		3.205E+01	1.154E+02	2.322E+00	-0.197
BALA-140	4.539E+00		7.664E+00	4.130E+01	8.935E-01	0.110
LA-140	1.909E+01		3.224E+01	1.738E+02	3.759E+00	0.110
CE-141	1.380E+01		2.765E+01	1.032E+02	2.123E+00	0.134
CE-144	4.187E+01		9.795E+01	3.720E+02	7.694E+00	0.113
CEPR-144	1.358E+02		1.923E+02	7.436E+02	1.538E+01	0.183
PM-144	-5.960E-01		4.986E+00	2.010E+01	4.062E-01	-0.030
PM-146	2.200E+01		9.835E+00	4.542E+01	9.102E-01	0.484
EU-152	-6.861E+01		2.920E+01	8.603E+01	1.721E+00	-0.797
EU-154	-2.381E-01		8.628E+00	3.948E+01	8.355E-01	-0.006
EU-155	-4.885E+00		4.920E+01	1.774E+02	3.736E+00	-0.028
HF-181	7.582E+00		6.611E+00	3.016E+01	6.052E-01	0.251
BI-207	3.313E-01		5.396E+00	2.202E+01	4.439E-01	0.015
TL-208	-9.574E+00		7.945E+00	2.894E+01	5.837E-01	-0.331
BI-210M	2.816E+01		1.939E+01	7.741E+01	1.553E+00	0.364
BI-212	-1.017E+02		8.906E+01	3.107E+02	9.497E+00	-0.327
BI-214	-1.427E+01		1.500E+01	5.668E+01	1.145E+00	-0.252
PB-214	-1.470E+01		2.595E+01	7.702E+01	1.540E+00	-0.191
RA-223	-5.071E+01		6.460E+01	2.240E+02	4.492E+00	-0.226
RA-224DA	3.079E+01	+	2.480E+01	9.739E+01	1.959E+00	0.316
RA-226DA	-1.414E+01		1.501E+01	5.677E+01	1.147E+00	-0.249
AC-227DA	3.350E+01		8.077E+01	2.735E+02	5.503E+00	0.122
AC-228	2.686E+01		1.588E+01	7.962E+01	1.642E+00	0.337
RA-228DA	2.691E+01		1.591E+01	7.978E+01	1.645E+00	0.337
TH-228DA	-2.681E+01		2.225E+01	8.102E+01	1.634E+00	-0.331
TH-232DA	-6.789E+01		6.043E+01	2.076E+02	4.152E+00	-0.327
TH-234DA	-6.427E+00		6.460E+02	2.732E+03	5.671E+01	-0.002
U-234DA	-3.234E+00		3.727E+01	1.435E+02	2.873E+00	-0.023
U-235HP	1.980E+02		1.163E+02	4.571E+02	9.407E+00	0.433
NP-237DA	-1.314E+01		2.322E+01	8.413E+01	1.684E+00	-0.156
U-238DA	-1.470E+01		2.595E+01	7.702E+01	1.540E+00	-0.191
U-238DHP	3.224E+02		3.713E+02	1.417E+03	3.145E+01	0.227
AM-241HP	-1.702E+01		3.350E+01	1.212E+02	2.709E+00	-0.140

STL Richland WA.

BA133

Sample ID: H8W101AA
Detector ID: GER8 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:58:03.76
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: 2.50992E-01
Slope: 2.49834E-01
Quadrature: 1.28335E-08

SAMPLE IDENTIFICATION: H8W101AA

CONFIGURATION ID: GER8:H8W101AA_180760958
TITLE : BA133
SAMPLE ID : H8W101AA

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:58:03
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 12-JUL-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:02:17.61
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: 2.5099E-01 keV
ENERGY SLOPE: 2.4983E-01 keV/C
ENERGY Q COEFF: 1.2834E-08 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 8.9718E-01 keV
FWHM SLOPE: 2.4790E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:28:49

Configuration	: $DISK1:[GER8.SAMPLE]H8W101AA_180760958.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6		
Sample title	: BA133		
Sample date	: 12-JUL-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:58:03
Sample ID	: H8W101AA	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.22 0.0%
Start energy	: 20.24	End energy	: 2047.75
Sensitivity	: 5.00	Gaussian	: 10.00
Critical level	: No		

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	30.78*	747	126	1.09	122.19	111	22	4.15E-01	5.3	
2	0	35.11	184	74	1.17	139.54	132	18	1.02E-01	13.3	
3	0	81.10	465	95	1.02	323.60	315	20	2.58E-01	7.0	
4	0	276.64	53	16	1.10	1106.23	1098	16	2.94E-02	21.8	
5	0	303.03	120	0	0.86	1211.84	1204	17	6.67E-02	9.1	
6	0	356.20	341	9	1.23	1424.64	1415	18	1.89E-01	5.8	
7	0	383.98	56	0	1.60	1535.82	1525	20	3.11E-02	13.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:49

Configuration : $DISK1:[GER8.SAMPLE]H8W101AA_180760958.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00
Sample ID : H8W101AA
Sample type :
Elapsed live time: 0 00:30:00.00
Energy tolerance : 1.50
Errors propagated: Yes
Efficiency type : Empirical
Abundance limit : 80.00

Acquisition date : 18-JUL-2006 09:58:03
Sample quantity : 1.0000 SAMPL
Sample geometry : BA133T15
Elapsed real time: 0 00:30:00.22 0.0%
Half life ratio : 8.00
Systematic Error : 5.00 %
Efficiencies at : Peak Energy

Nuclide Line Activity Report

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	465	33.00	2.202E+00	2.133E+03	2.135E+03	8.87
	276.40	53	6.90	2.371E+00	1.080E+03	1.081E+03	22.42
	302.84	120	17.80	2.374E+00	9.467E+02	9.477E+02	10.60
	356.00	341	62.05*	2.376E+00	7.710E+02	7.719E+02	7.91
	383.85	56	8.70	2.375E+00	9.033E+02	9.043E+02	14.41

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8W101AA

Acquisition date : 18-JUL-2006 09:58:03

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	30.78	747	126	1.09	122.19	111	22	4.15E-01	5.3	1.93E+00	
0	35.11	184	74	1.17	139.54	132	18	1.02E-01	13.3	1.97E+00	

Flags: "T" = Tentatively associated

Rejected Report
Sample ID : H8W101AA

Acquisition date : 18-JUL-2006 09:58:03

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
TL-208	1.41E+10Y	0.00	277.35	6.80	1.096E+03	22.42	Abun.
			510.84	21.60	--- Not Found ---		
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		5.44			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:28:51

Configuration : $DISK1:[GER8.SAMPLE]H8W101AA_180760958.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8
Analyses by : MINACT V2.8
Sample title : BA133
Sample date : 12-JUL-2006 12:00:00 Acquisition date : 18-JUL-2006 09:58:03
Sample ID : H8W101AA Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.22 0.0%
Peak Width (FWHM): 3.00 Confidence level : 5.00 %
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00 WTM error limit : 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BA-133	7.719E+02	6.106E+01	5.376E+01	1.075E+00	14.358

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.404E+01		5.801E+01	2.134E+02	4.280E+00	-0.206
NA-22	-2.281E+00		2.270E+00	8.509E+00	1.801E-01	-0.268
K-40	-1.304E+01		3.530E+01	1.846E+02	3.956E+00	-0.071
SC-46	2.914E+00		4.426E+00	2.021E+01	4.230E-01	0.144
CR-51	6.276E+00		8.863E+01	3.376E+02	6.756E+00	0.019
MN-54	-1.321E+00		3.200E+00	1.353E+01	2.775E-01	-0.098
CO-57	-8.380E+01		1.127E+02	3.884E+02	8.020E+00	-0.216
CO-58	-7.312E+00		3.941E+00	1.126E+01	2.306E-01	-0.649
FE-59	-8.902E+00		6.544E+00	2.092E+01	4.373E-01	-0.425
CO-60	-1.445E+00		2.560E+00	1.098E+01	2.333E-01	-0.132
ZN-65	-7.018E-01		5.868E+00	2.647E+01	5.539E-01	-0.027
SE-75	-2.940E+01		1.621E+01	5.221E+01	1.047E+00	-0.563
SR-85	-1.231E+01		8.611E+00	2.877E+01	5.780E-01	-0.428
Y-88	1.611E+00		1.613E+00	1.184E+01	2.601E-01	0.136
NB-94	-1.315E+00		3.769E+00	1.552E+01	3.191E-01	-0.085
NB-95	3.989E-01		4.976E+00	2.113E+01	4.313E-01	0.019
TC-95M	-6.748E+00		1.733E+01	6.262E+01	1.266E+00	-0.108
ZR-95	-3.054E+00		4.953E+00	2.029E+01	4.138E-01	-0.151
ZRNB-95	7.563E-01		9.435E+00	4.006E+01	8.177E-01	0.019
MO-99	5.434E+01		5.927E+01	2.234E+02	4.603E+00	0.243
RH-101	-6.643E+00		1.628E+01	5.650E+01	1.144E+00	-0.118
RH-102M	2.950E+00		4.585E+00	2.070E+01	4.152E-01	0.143
RU-103	1.172E+01		5.183E+00	2.733E+01	5.487E-01	0.429
RU-106DA	-1.575E+01		5.308E+01	2.062E+02	4.170E+00	-0.076
AG-108M	-8.182E+00		8.217E+00	2.797E+01	5.602E-01	-0.293
AG-110M	-5.802E+00		6.634E+00	2.427E+01	4.995E-01	-0.239
SN-113DA	-4.784E+00		1.223E+01	4.433E+01	8.869E-01	-0.108

Sample ID : H8W101AA Acquisition date : 18-JUL-2006 09:58:03

---- Non-Identified Nuclides ----

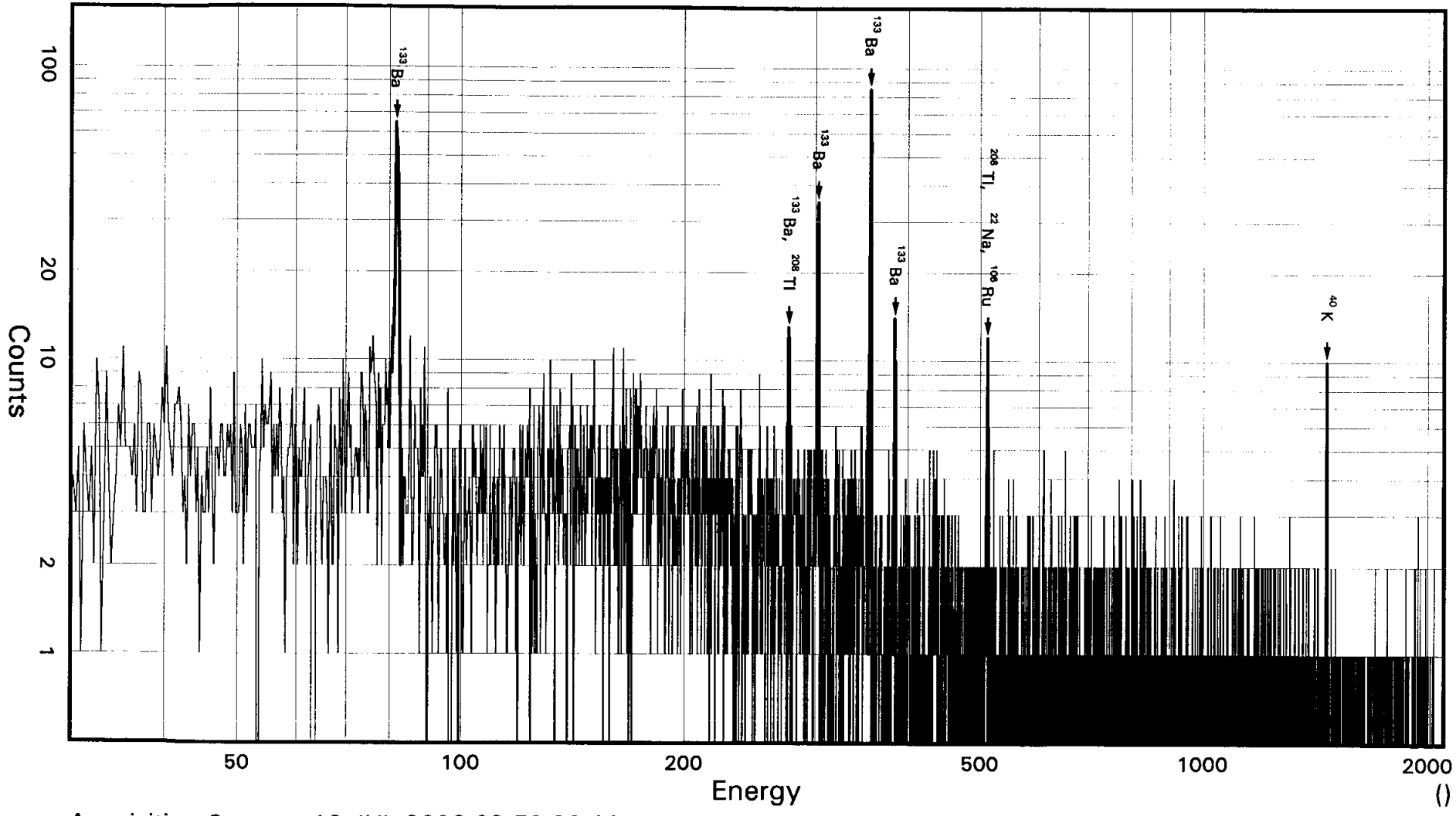
Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-124	1.627E+00		6.031E+00	2.467E+01	4.982E-01	0.066
SB-125	1.421E+01		2.172E+01	8.856E+01	1.773E+00	0.160
SN-126DA	-7.364E+00		4.372E+00	1.321E+01	2.678E-01	-0.557
I-131	-9.630E-01		1.305E+01	5.003E+01	1.001E+00	-0.019
CS-134	6.968E+00		5.290E+00	2.535E+01	5.185E-01	0.275
CS-137DA	2.705E+00		5.263E+00	2.310E+01	4.681E-01	0.117
LA-138	-4.866E+00		4.429E+00	1.570E+01	3.359E-01	-0.310
CE-139	-3.130E+00		1.449E+01	5.141E+01	1.049E+00	-0.061
BA-140	-3.779E+01		2.555E+01	8.372E+01	1.684E+00	-0.451
BALA-140	-1.326E-01		6.289E+00	3.221E+01	6.965E-01	-0.004
LA-140	-5.587E-01		2.646E+01	1.355E+02	2.930E+00	-0.004
CE-141	6.699E+01		3.009E+01	1.187E+02	2.441E+00	0.564
CE-144	1.312E+01		1.076E+02	3.920E+02	8.106E+00	0.033
CEPR-144	2.406E+01		2.151E+02	7.831E+02	1.619E+01	0.031
PM-144	-2.992E+00		5.044E+00	1.896E+01	3.832E-01	-0.158
PM-146	-3.583E+00		7.286E+00	2.835E+01	5.682E-01	-0.126
EU-152	-7.367E+01		2.992E+01	8.619E+01	1.724E+00	-0.855
EU-154	-7.911E+00		5.860E+00	1.593E+01	3.371E-01	-0.497
EU-155	-5.799E+01		5.204E+01	1.771E+02	3.730E+00	-0.327
HF-181	7.821E+00		7.384E+00	3.253E+01	6.526E-01	0.240
BI-207	-5.721E+00		4.566E+00	1.557E+01	3.138E-01	-0.367
TL-208	-4.498E+00		5.126E+00	1.876E+01	3.784E-01	-0.240
BI-210M	6.994E+00		1.718E+01	6.623E+01	1.329E+00	0.106
BI-212	-9.261E+01		6.368E+01	2.014E+02	6.155E+00	-0.460
PB-212	2.893E+01		2.187E+01	9.056E+01	1.821E+00	0.319
BI-214	1.216E+01		1.150E+01	5.099E+01	1.030E+00	0.239
PB-214	-4.650E+01		3.248E+01	8.773E+01	1.755E+00	-0.530
RA-223	-7.747E+01		6.634E+01	2.263E+02	4.538E+00	-0.342
RA-224DA	2.910E+01		2.200E+01	9.109E+01	1.832E+00	0.319
RA-226DA	9.059E+00		1.190E+01	5.097E+01	1.030E+00	0.178
AC-227DA	-2.279E+02		8.322E+01	2.452E+02	4.932E+00	-0.930
AC-228	2.215E+00		1.090E+01	5.174E+01	1.067E+00	0.043
RA-228DA	2.219E+00		1.092E+01	5.184E+01	1.069E+00	0.043
TH-228DA	-1.259E+01		1.435E+01	5.253E+01	1.059E+00	-0.240
TH-232DA	9.439E+01		6.095E+01	2.569E+02	5.138E+00	0.367
TH-234DA	-3.118E+02		4.856E+02	1.938E+03	4.022E+01	-0.161
U-234DA	-3.038E+01		4.358E+01	1.546E+02	3.096E+00	-0.197
U-235HP	1.523E+02		1.276E+02	4.799E+02	9.875E+00	0.317
NP-237DA	-3.892E+00		2.103E+01	7.846E+01	1.570E+00	-0.050
U-238DA	-4.650E+01		3.248E+01	8.773E+01	1.755E+00	-0.530
U-238DHP	7.089E+02		4.599E+02	1.796E+03	3.984E+01	0.395
AM-241HP	-7.598E+01		4.306E+01	1.425E+02	3.184E+00	-0.533

STL Richland WA.

BA133

Sample ID: H8W101AC
Detector ID: GER13 1

Batch ID: 6191220



Acquisition Start: 18-JUL-2006 09:58:22.62
Preset Live Time: 0 00:30:00.00
Elapsed Live Time: 0 00:30:00.00

Energy Coefficients:
Offset: -6.09008E-01
Slope: 2.50740E-01
Quadrature: -1.00977E-07

SAMPLE IDENTIFICATION: H8W101AC

CONFIGURATION ID: GER13:H8W101AC_180760958
TITLE : BA133
SAMPLE ID : H8W101AC

REPORT DATE: 18-JUL-06
ACQUIRE DATE: 18-JUL-06 09:58:22
ELAPSED LIVE TIME: 1800.0 Sec
PRESET LIVE TIME: 0 00:30:00

SAMPLE DATE: 13-JUN-2006 12:00:00.00
CALIB DATE: 18-JUL-2006 06:20:02.06
ELAPSED LIVE TIME: 0 00:30:00
ELAPSED REAL TIME: 0 00:30:00

SAMPLE QUANTITY: 1.0000E+00
SAMPLE GEOMETRY: BA133T15

UNITS: SAMPL
SAMPLE TYPE:

ENERGY OFFSET: -.6090E+00 keV
ENERGY SLOPE: 2.5074E-01 keV/C
ENERGY Q COEFF: -.1010E-06 keV/C^^2
PEAK SENSITIVITY: 5.000

FWHM OFFSET: 4.3392E-01 keV
FWHM SLOPE: 4.4080E-02 sqr keV
ITERATIONS: 10
GAUSSIAN SENSITIVITY: 10.00 %

ABUNDANCE LIMIT: 80.00 %
ENERGY TOLERANCE: 1.500 keV
VARIABLE PEAK WIDTH: 3.00

HALF-LIFE RATIO: 8.00
ACTIVITY MULTIPLIER: 2.2200E+06
LIBRARY: [NUC_LIBR]QRL.NLB

VMS Peak Search Report V1.9 Generated 18-JUL-2006 10:29:04

Configuration : $DISK1:[GER13.SAMPLE]H8W101AC_180760958.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 09:58:22
Sample ID : H8W101AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Start energy : 19.45 End energy : 2046.68
Sensitivity : 5.00 Gaussian : 10.00
Critical level : No

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	81.83	229	64	0.85	328.81	321	13	1.27E-01	9.7	
2	0	276.71	73	9	1.10	1106.48	1100	17	4.03E-02	14.9	
3	0	302.65	183	33	1.04	1210.05	1199	22	1.02E-01	10.9	
4	0	355.76	445	20	1.24	1422.07	1412	20	2.47E-01	5.3	
5	0	383.99	54	26	1.33	1534.80	1524	16	3.00E-02	24.5	
6	0	511.17*	10	13	0.74	2042.73	2033	19	5.33E-03	129.8	
7	0	1460.71*	9	5	1.55	5841.75	5830	20	5.25E-03	100.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:29:04

Configuration : $DISK1:[GER13.SAMPLE]H8W101AC_180760958.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3
Sample title : BA133
Sample date : 13-JUN-2006 12:00:00 Acquisition date : 18-JUL-2006 09:58:22
Sample ID : H8W101AC Sample quantity : 1.0000 SAMPL
Sample type : Sample geometry : BA133T15
Elapsed live time: 0 00:30:00.00 Elapsed real time: 0 00:30:00.38 0.0%
Energy tolerance : 1.50 Half life ratio : 8.00
Errors propagated: Yes Systematic Error : 5.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 80.00

Nuclide Line Activity Report

Nuclide Type: NP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
K-40	1460.81	9	10.67*	2.719E+00	1.085E+02	1.085E+02	100.59

Nuclide Type: FP

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected DPM/SAMPL	Decay Corr DPM/SAMPL	1-Sigma %Error
BA-133	81.00	229	33.00	2.704E+00	8.552E+02	8.606E+02	11.13
	276.40	73	6.90	2.897E+00	1.209E+03	1.217E+03	15.87
	302.84	183	17.80	2.900E+00	1.184E+03	1.191E+03	12.13
	356.00	445	62.05*	2.903E+00	8.236E+02	8.288E+02	7.58
	383.85	54	8.70	2.902E+00	7.140E+02	7.185E+02	25.11

Flag: "*" = Keyline

Unidentified Energy Lines
Sample ID : H8W101AC

Acquisition date : 18-JUL-2006 09:58:22

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	511.17	10	13	0.74	2042.73	2033	19	5.33E-03	****	2.89E+00	T

Flags: "T" = Tentatively associated

Sample ID : H8W101AC
Acquisition date : 18-JUL-2006 09:58:22

Nuclide	Half-life	Half-Life Ratio	Energy	%Abund	Activity (DPM/SAMPL)	1-Sigma %Error	Rejected by
NA-22	2.60Y	0.04	511.00	179.68	6.312E+00	129.91	Abun.
			1274.54*	99.94	--- Not Found ---		
		% Abundances Found =		64.26			
RU-106DA	368.20D	0.09	511.85	20.60	5.732E+01	129.91	Abun.
			621.84*	9.80	--- Not Found ---		
		% Abundances Found =		67.76			
TL-208	1.41E+10Y	0.00	277.35	6.80	1.227E+03	15.87	Abun.
			510.84	21.60	5.119E+01	129.91	
			583.14*	84.20	--- Not Found ---		
			860.37	12.46	--- Not Found ---		
		% Abundances Found =		22.71			

Flag: "*" = Keyline

VMS Nuclide Identification Report V3.0 Generated 18-JUL-2006 10:29:06

Configuration	: $DISK1:[GER13.SAMPLE]H8W101AC_180760958.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.3,WTMEAN/KEY V1.8		
Analyses by	: MINACT V2.8		
Sample title	: BA133		
Sample date	: 13-JUN-2006 12:00:00	Acquisition date	: 18-JUL-2006 09:58:22
Sample ID	: H8W101AC	Sample quantity	: 1.0000 SAMPL
Sample type	:	Sample geometry	: BA133T15
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:00.38 0.0%
Peak Width (FWHM)	: 3.00	Confidence level	: 5.00 %
Energy tolerance	: 1.50	Half life ratio	: 8.00
Errors propagated	: Yes	Systematic Error	: 5.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 80.00	WTM error limit	: 3.00

Combined Activity-MDA Report

---- Identified Nuclides ----

Nuclide	Activity (DPM/SAMPL)	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
K-40	1.085E+02	1.091E+02	1.224E+02	2.614E+00	0.886
BA-133	8.288E+02	6.286E+01	5.764E+01	1.153E+00	14.379

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
BE-7	-4.068E+01		8.770E+01	3.180E+02	6.379E+00	-0.128
NA-22	2.479E+00		4.977E+00	2.070E+01	4.368E-01	0.120
SC-46	-8.268E+00		7.806E+00	2.901E+01	6.057E-01	-0.285
CR-51	2.890E+02		2.241E+02	8.618E+02	1.724E+01	0.335
MN-54	6.054E+00		6.670E+00	2.707E+01	5.545E-01	0.224
CO-57	1.377E+02		1.078E+02	4.152E+02	8.559E+00	0.332
CO-58	-6.805E-01		8.478E+00	3.208E+01	6.559E-01	-0.021
FE-59	2.747E+00		1.525E+01	6.070E+01	1.266E+00	0.045
CO-60	-4.323E+00		4.434E+00	1.566E+01	3.315E-01	-0.276
ZN-65	-1.272E+01		1.181E+01	4.039E+01	8.430E-01	-0.315
SE-75	1.190E+01		1.965E+01	7.350E+01	1.474E+00	0.162
SR-85	3.129E+01		1.104E+01	4.542E+01	9.125E-01	0.689
Y-88	4.764E+00		3.546E+00	1.901E+01	4.153E-01	0.251
NB-94	-4.028E+00		5.257E+00	1.869E+01	3.838E-01	-0.216
NB-95	-2.030E+01		1.419E+01	4.714E+01	9.611E-01	-0.431
TC-95M	-2.001E+01		2.543E+01	8.573E+01	1.732E+00	-0.233
ZR-95	6.825E+00		1.680E+01	6.578E+01	1.340E+00	0.104
ZRNB-95	-2.991E+01		2.070E+01	6.867E+01	1.400E+00	-0.436
RH-101	1.777E+01		1.549E+01	5.767E+01	1.166E+00	0.308
RH-102M	4.355E+00		6.691E+00	2.644E+01	5.302E-01	0.165
RU-103	6.434E+00		1.335E+01	5.167E+01	1.037E+00	0.125
RU-106DA	7.805E+01		7.916E+01	3.129E+02	6.322E+00	0.249
AG-108M	7.296E+00		9.969E+00	3.764E+01	7.538E-01	0.194
AG-110M	4.821E+00		7.523E+00	3.117E+01	6.406E-01	0.155
SN-113DA	-1.325E+00		1.240E+01	4.653E+01	9.308E-01	-0.028
SB-124	-2.641E-02		9.076E+00	3.456E+01	6.975E-01	-0.001

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (DPM/SAMPL)	K.L. Ided	Act error	MDA (DPM/SAMPL)	MDA error	Act/MDA
SB-125	-1.730E+00		2.193E+01	8.233E+01	1.648E+00	-0.021
SN-126DA	-1.963E+00		5.436E+00	2.009E+01	4.070E-01	-0.098
I-131	-1.613E+02		1.755E+02	6.171E+02	1.234E+01	-0.261
CS-134	-1.453E+00		5.124E+00	1.999E+01	4.084E-01	-0.073
CS-137DA	3.350E+00		6.966E+00	2.745E+01	5.560E-01	0.122
LA-138	2.327E-01		5.109E+00	2.203E+01	4.695E-01	0.011
CE-139	4.071E+01		1.675E+01	6.591E+01	1.344E+00	0.618
BA-140	1.952E+02		1.660E+02	6.873E+02	1.382E+01	0.284
BALA-140	-1.754E+01		2.999E+01	1.264E+02	2.722E+00	-0.139
CE-141	-1.894E+00		4.824E+01	1.737E+02	3.566E+00	-0.011
CE-144	1.020E+02		1.128E+02	4.249E+02	8.770E+00	0.240
CEPR-144	1.993E+02		2.253E+02	8.482E+02	1.751E+01	0.235
PM-144	2.586E+00		6.942E+00	2.687E+01	5.428E-01	0.096
PM-146	-3.507E+00		1.066E+01	3.864E+01	7.743E-01	-0.091
EU-152	2.697E+01		3.599E+01	1.335E+02	2.670E+00	0.202
EU-154	6.856E+00		1.376E+01	5.725E+01	1.208E+00	0.120
EU-155	2.478E+00		5.392E+01	1.911E+02	4.012E+00	0.013
HF-181	4.745E-01		1.254E+01	4.757E+01	9.543E-01	0.010
BI-207	-3.537E+00		5.634E+00	2.052E+01	4.134E-01	-0.172
TL-208	-2.708E+00		7.730E+00	3.158E+01	6.366E-01	-0.086
BI-210M	1.607E+01		1.840E+01	7.008E+01	1.405E+00	0.229
BI-212	7.311E+01		9.244E+01	3.756E+02	1.148E+01	0.195
PB-212	1.178E+01		2.403E+01	9.210E+01	1.852E+00	0.128
BI-214	6.796E+00		1.619E+01	6.939E+01	1.401E+00	0.098
PB-214	1.655E+01		3.066E+01	1.057E+02	2.113E+00	0.157
RA-223	-8.518E+01		6.950E+01	2.339E+02	4.690E+00	-0.364
RA-224DA	1.220E+01		2.488E+01	9.536E+01	1.917E+00	0.128
RA-226DA	6.998E+00		1.620E+01	6.948E+01	1.403E+00	0.101
AC-227DA	-5.914E+01		9.416E+01	3.307E+02	6.651E+00	-0.179
AC-228	1.627E+01		2.323E+01	1.003E+02	2.064E+00	0.162
RA-228DA	1.646E+01		2.350E+01	1.014E+02	2.088E+00	0.162
TH-228DA	-7.803E+00		2.228E+01	9.100E+01	1.835E+00	-0.086
TH-232DA	9.846E+01		7.639E+01	2.915E+02	5.830E+00	0.338
TH-234DA	-6.743E+02		6.896E+02	2.447E+03	5.068E+01	-0.276
U-234DA	5.836E+01		4.846E+01	1.861E+02	3.726E+00	0.314
U-235HP	-9.168E+00		1.085E+02	3.892E+02	7.996E+00	-0.024
NP-237DA	2.392E+01		2.480E+01	9.439E+01	1.889E+00	0.253
U-238DA	1.655E+01		3.066E+01	1.057E+02	2.113E+00	0.157
U-238DHP	-2.835E+02		2.788E+02	9.648E+02	2.128E+01	-0.294
AM-241HP	8.681E+00		3.266E+01	1.205E+02	2.677E+00	0.072

7/17/2006 10:14:01 PM

Standard Material Fractions (Vials)

Vial Prep: 7/16/05 to 7/18/06,SMFractionIdentifier Between RATA23261 and RATA23276, Order by

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA-30-6092		Ref:			2.9100E+01	± 1.920E-01	mg/g			
RATA23261	BA	**3.0090E+01**	± **1.986E-01**	mg	1.034	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23262	BA	**3.0087E+01**	± **1.986E-01**	mg	1.0339	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23263	BA	**3.0040E+01**	± **1.982E-01**	mg	1.0323	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23264	BA	**3.0171E+01**	± **1.991E-01**	mg	1.0368	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23265	BA	**3.0034E+01**	± **1.982E-01**	mg	1.0321	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23266	BA	**3.0093E+01**	± **1.986E-01**	mg	1.0341	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23267	BA	**3.0078E+01**	± **1.985E-01**	mg	1.0336	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23268	BA	**3.0046E+01**	± **1.983E-01**	mg	1.0325	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23269	BA	**3.0002E+01**	± **1.980E-01**	mg	1.031	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23270	BA	**3.0096E+01**	± **1.986E-01**	mg	1.0342	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23271	BA	**3.0061E+01**	± **1.984E-01**	mg	1.033	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23272	BA	**3.0192E+01**	± **1.992E-01**	mg	1.0375	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23273	BA	**3.0075E+01**	± **1.985E-01**	mg	1.0335	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23274	BA	**3.0061E+01**	± **1.984E-01**	mg	1.033	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23275	BA	**3.0049E+01**	± **1.983E-01**	mg	1.0326	g	7/12/2006	7/12/2006	Armstron		±	mg/g
RATA23276	BA	**3.0046E+01**	± **1.983E-01**	mg	1.0325	g	7/12/2006	7/12/2006	Armstron		±	mg/g

3.0076E+001 ± 4.817E-002 (16) 0.160% 3.0002E+001 , 3.0192E+001

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000		Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RATA23261	BA-133	**7.5759E+02**	± **1.393E+00**	DPM	0.0769	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23262	BA-133	**7.6350E+02**	± **1.393E+00**	DPM	0.0775	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23263	BA-133	**7.5661E+02**	± **1.393E+00**	DPM	0.0768	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23264	BA-133	**7.5660E+02**	± **1.393E+00**	DPM	0.0768	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23265	BA-133	**7.5562E+02**	± **1.393E+00**	DPM	0.0767	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23266	BA-133	**7.5168E+02**	± **1.393E+00**	DPM	0.0763	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23267	BA-133	**7.5759E+02**	± **1.393E+00**	DPM	0.0769	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23268	BA-133	**7.6252E+02**	± **1.393E+00**	DPM	0.0774	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23269	BA-133	**7.5463E+02**	± **1.393E+00**	DPM	0.0766	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23270	BA-133	**7.5463E+02**	± **1.393E+00**	DPM	0.0766	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23271	BA-133	**7.5168E+02**	± **1.393E+00**	DPM	0.0763	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23272	BA-133	**7.5660E+02**	± **1.393E+00**	DPM	0.0768	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23273	BA-133	**7.5857E+02**	± **1.393E+00**	DPM	0.077	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23274	BA-133	**7.5168E+02**	± **1.393E+00**	DPM	0.0763	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23275	BA-133	**7.5562E+02**	± **1.393E+00**	DPM	0.0767	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
RATA23276	BA-133	**7.4872E+02**	± **1.393E+00**	DPM	0.076	g	7/12/2006	7/12/2006	Armstron	9.8516E+03	± 0.000E+00	DPM/G
		7.5587E+002 ± 3.866E+000 (16)			0.512%		7.4872E+002 , 7.6350E+002					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA13306A000		Ref:	10/4/2004		1.1069E+04	±		DPM/G		
RASC4141	BA-133	**7.5263E+02**	**± 1.401E+00**	DPM	0.076	g	6/13/2006	6/13/2006	Armstron	9.9030E+03	± 0.000E+00	DPM/G
		7.5263E+002	± 7.526E+002	(1)			7.5263E+002 , 7.5263E+002					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	Ra22606A100		Ref:	11/1/2001		2.1060E+01	± 3.234E-01	DPM/G			
RASC4141	RA-226	**3.0896E+00**	**± 4.754E-02**	DPM	0.147	g	6/13/2006	6/13/2006	Armstron	2.1018E+01	± 3.228E-01	DPM/G
		3.0896E+000	± 3.090E+000	(1)			3.0896E+000 , 3.0896E+000					

* - Isotope is an Impurity

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	RA22806A000		Ref:	12/15/2003		4.4881E+02	±		DPM/G		
RASC4141	RA-228	**1.1234E+01**	**± 4.701E-02**	DPM	0.0338	g	6/13/2006	6/13/2006	Armstron	3.3238E+02	± 0.000E+00	DPM/G
		1.1234E+001	± 1.123E+001	(1)			1.1234E+001 , 1.1234E+001					

STL Richland, SMFractions v4.8.12 Page 4 Record Count: 4

* - Isotope is an Impurity

7/17/2006 10:12:36 PM

Standard Material Fractions (Vials)

Vial Prep: 7/16/05 to 7/18/06,SMFractionIdentifier Between RASC4141 and RASC4141, Order by SMIdentifier,ConstituentCode,SMFractionIdentifier

Vial Identifier	Constituent	Prep Activity/Concentration			Std Wt Used		Prep,Decayed To Date		Prep by	Std Decayed Activity/Concentration		
	Parent Standard:	BA-30-6092		Ref:			2.9100E+01	± 1.920E-01	mg/g			
RASC4141	BA	**3.0061E+01**	**± 1.984E-01**	mg	1.033	g	6/13/2006	6/13/2006	Armstron		±	mg/g
		1.5030E+001	± 2.126E+001	(2)			3.0061E+001 , 3.0061E+001					

STL Richland, SMFractions v4.8.12 Page 1 Record Count: 2

* - Isotope is an Impurity